



## DOCTOR OF CLINICAL PSYCHOLOGY (DCLINPSY)

### Doctorate in Clinical Psychology: Main Research Portfolio

**1) Systematic Review: The efficacy of video-feedback interventions to enhance parent-infant interaction in 'at risk' populations: a systematic review; 2) Service Improvement Project: Increasing access to emotional coping skills training in an acute inpatient setting: Exploring feasibility and barriers to implementation; 3) Main Research Project: Psychosocial factors underpinning depression in Multiple Sclerosis**

Brown, Laura

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# Research Portfolio submitted in part fulfilment of the requirements for the Degree of Doctorate in Clinical Psychology

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Laura Brown

Doctorate in Clinical Psychology

University of Bath  
Department of Psychology

April 2016

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### **Word Counts**

The efficacy of video-feedback interventions to enhance parent-infant interaction in 'at risk' populations: A systematic review.	8388
Increasing access to emotional coping skills training in an acute inpatient setting: Exploring feasibility and barriers to implementation.	7480
Psychosocial factors underpinning depression in Multiple Sclerosis	7252
Psychosocial factors underpinning depression in Multiple Sclerosis: Executive summary	674
Connecting narrative	2861

## Contents

Acknowledgements.....	4
Abstract: The efficacy of video-feedback interventions to enhance parent-infant interaction in ‘at risk’ populations: A systematic review .....	6
Abstract: Increasing access to emotional coping skills training in an acute inpatient setting: Exploring feasibility and barriers to implementation .....	7
Abstract: Psychosocial factors underpinning depression in Multiple Sclerosis .....	8
 The efficacy of video-feedback interventions to enhance parent-infant interaction in ‘at risk’ populations: A systematic review.....	9
Introduction.....	10
Method.....	14
Results.....	19
Description of studies .....	21
Quality assessment results.....	<b>Error! Bookmark not defined.</b>
Outcomes .....	33
Discussion .....	43
Conclusions.....	49
References .....	50
 Increasing access to emotional coping skills training in an acute inpatient setting: Exploring feasibility and barriers to implementation. ....	59
Introduction.....	60
Service Context .....	62
Aims.....	63
Stage 1. Development of a guided self-help resource .....	63
Stage 2. Implementation and initial data collection .....	64
Stage 3. Exploring feasibility, acceptability, and the barriers to implementation .....	66
Method. ....	66
Data analysis.....	68

Results .....	69
Recommendations.....	80
Discussion .....	81
Conclusions .....	85
References .....	86
 Psychosocial factors underpinning depression in Multiple Sclerosis.....	 89
Literature review .....	90
Aims and hypotheses .....	97
Method.....	97
Statistical analyses and treatment of data .....	103
Results.....	105
Discussion .....	113
Conclusions .....	119
References .....	120
 Executive Summary .....	 127
Connecting Narrative .....	131
Appendices: Service Improvement Project .....	141
Appendices: Main Research Project .....	187
Appendices: Journal Instructions for Authors.....	204

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## Title

The efficacy of video-feedback interventions to enhance parent-infant interaction in 'at risk' populations: A systematic review.

## Abstract

**Background:** *The development of secure attachment relationships is associated with improved social-emotional and cognitive functioning, and is highly influenced by the interaction between infant and caregiver. Video-feedback interventions offer a method of improving such interactions in a brief, potentially cost-effective format, and may be particularly relevant to populations at risk for less positive parenting practices.* **Aim:** *To explore the short and longer term effectiveness of video-feedback interventions (VFIs) in modifying parent-infant interactions (e.g. parental sensitivity and responsiveness), and parenting outcomes, in the context of parental risk factors (such as insecure maternal attachment representations and maternal mental health difficulties).* **Method:** *A systematic review was conducted to identify and review randomised control trials of VFIs.* **Results:** *Eleven studies were included. Improvements in parent-infant interactions such as maternal sensitivity and responsivity, and infant co-operation and responsiveness, were reported. Preliminary evidence indicated long-term improvements in some parent outcomes (e.g. parenting stress and involvement), but not in maternal sensitivity.* **Conclusions:** *Studies have demonstrated short-term efficacy in improving parental outcomes and parent-infant interactions in 'at risk' parenting populations. Future research should concentrate on long-term outcomes and component analyses, in addition to the effects on fathers.*

**Key Words:** Video-feedback, parent-infant interaction



## Title

Increasing access to emotional coping skills training in an acute inpatient setting: Exploring feasibility and barriers to implementation.

## Abstract

**Background:** *Acute inpatient access to psychological therapies is a key part of national UK policy, yet resource limitations and financial and time pressures means that they are not often provided to all who might benefit. Guidance indicates that ward staff should be supported by psychologists to provide simple psychological interventions to patients. Further research emphasises many challenges to evaluating psychological input into acute mental health wards.* **Purpose:** *The present study aimed to explore staff perspectives on the implementation of a new guided self-help resource focused on developing patient emotion regulation and distress tolerance skills. In addition, it aimed to contribute to existing research regarding the barriers to evaluating the effectiveness of psychological provision in acute inpatient units.* **Methodology:** *Staff perceptions of the usefulness of a new guided self-help resource and supplementary reflective practice sessions, in addition to barriers to evaluating the effectiveness of these, were explored through semi-structured interviews* **Findings:** *Thematic analysis identified five key themes: staff factors, patient factors, research factors, usefulness of reflective practice, and improvements.* **Conclusions/Value:** *Guided self-help resources may not be a feasible method of increasing emotional regulation and emotional coping skills in patients in an acute mental health hospital. Reflective practice may be useful, if there is a shared understanding of goals, structure, and boundaries. Alternative methods of increasing psychological provision in acute inpatient settings are considered, including group-based interventions and collaborative formulation with staff.*

**Key Words:** acute mental health; psychological therapy; psychological research; therapeutic milieu

## Title

Psychosocial factors underpinning depression in Multiple Sclerosis

## Abstract

**Background:** Up to 50% of people with MS experience at least one episode of major depression. A model of psychosocial factors implicated in depression in people with MS has been proposed (Arnett, Barwick, & Beeney, 2008), but few studies have investigated these. Moreover, the model may be limited in terms of its scope. **Aim:** To investigate the constructs of pain interference, perceived symptom severity, perceived social support, self-efficacy, self-compassion, self-criticism, anxiety, and health anxiety in relation to depression in people with MS, with a particular focus on the mediating role of mental defeat (MD). **Method:** 86 participants were recruited from a Community Neuro and Stroke Service and an MS therapy centre. Participants completed self-report questionnaires measuring depression-related psychosocial variables. **Results:** Between-group comparisons (clinical versus non-clinical depression) and regression analyses revealed that the proposed psychosocial factors were significantly associated with depression. When compared simultaneously, only anxiety and MD remained significant predictors of depression. Mediation analyses revealed that MD mediated the association between each psychosocial factor and depression. **Conclusions:** The present study supports existing research highlighting an association between various psychosocial factors and depression and offers initial evidence for the role of MD in mediating these relationships. A re-conceptualisation of the model of depression in people with MS is argued and it is suggested that MD may be a beneficial focus of therapeutic work, but that further research is required to establish this.

**Key Words:** Multiple sclerosis, depression, mental defeat, mental health, psychosocial correlates.

The efficacy of video-feedback interventions to enhance parent-infant interaction in 'at risk' populations: A systematic review.

Laura Brown (laura.brown2@bath.ac.uk)

Internal Supervisor: Dr James Gregory (J.D.Gregory@bath.ac.uk)

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Target Journal: Infant Mental Health Journal

This journal has been selected due to its focus on the development of infants and their families, including parent-infant interactions. Although the impact factor is relatively low at 1.071, this journal has previously published research related to the review topic and so it was considered an appropriate forum for reaching the intended audience.

## Introduction

**The importance of parent-infant interactions.** Recent UK government reports have focused on promoting early intervention to enable “every baby, child and young person to acquire the social and emotional foundations upon which our success as human beings depends” (Allen, 2011, p. 3). Secure attachments (SAs) are cited as one of the core emotional capabilities that a child needs to acquire; SAs are associated with improved social-emotional and cognitive functioning when compared with those infants who are insecurely attached (e.g. Thompson, 1999; Sroufe, 2005). The early infant years are a vital period for the development of these attachment relationships, the quality of which are highly influenced by the quantity and quality of interaction between the infant and their caregiver(s) (Goldberg, 2014).

Parental sensitivity is one such influencing factor. This refers to a parent’s ability to appropriately perceive, and adequately respond to, an infant’s signals. Not only has parental sensitivity been argued as the most important predictor of infant attachment security (Ainsworth, Blehar, Waters, & Wall, 2014), it has been demonstrated to impact upon a range of additional infant outcomes, including social development and emotional regulation (NICHD Early Child Care Research Network., 1998). Additional key factors in the parent-infant interaction include parental responsiveness and emotional availability. Parental responsiveness has been shown to predict child attachment in the context of low-income parents (Dexter, Wong, Stacks, Beeghly, & Barnett, 2013; Howes & Guerra, 2009), whilst parental emotional availability has been shown to predict child attachment security (Easterbrooks and Biringen, 2000), in addition to being linked to improved infant emotion regulation (Little and Carter, 2005).

There are a range of environments in which infants are at greater risk of insecure attachment. This includes having a parent who is living in poverty, has a low level of education, has poor mental health, or who has an insecure

attachment representation themselves (Moullin, Waldfogel, & Wahbrook, 2014).

Parents who are insecurely attached are more likely to have a negative internal working models which influences their interactions with their infant. For example, a parent with an insecure-avoidant attachment may be emotionally detached and find it difficult to connect with their infant, whilst a parent with an insecure-ambivalent attachment may behave inconsistently towards their infant and be unpredictable. As such, it is more difficult for an adult with insecure attachment representations to respond appropriately to their child's needs, which in turn impacts upon the infant's own development of attachment.

Similarly, it is not living in poverty itself that directly affects attachment. Rather, poverty makes parenting more difficult and often results in increased levels of parental stress, which in turn makes optimal parenting more difficult (Yueng, Linver, & Brooks-Gunn, 2002). Further research has indicated that low parental education is more greatly associated with difficulties in parental warmth and sensitivity, rather than parental income (Gutman, Brown, & Akerman, 2009). That is, parents with lower levels of education were found to cuddle and read to their babies less than those with higher levels of education.

Mental health is another key risk factor for infant insecure attachment (Mensah & Kiernan, 2010). The experience of depression, for example, makes it more difficult to be responsive and sensitive as a parent, particularly due to an increased focus inwards towards the self, a lack of motivation, and a cognitive style which tends towards rumination and self-criticism. Infants are particularly sensitive to parental stress and depression, more specifically higher child cortisol levels have been found in children depressed parents (e.g. Essex et al., 2002). Additionally, children of depressed parents are at greater risk of externalising problems, in addition to insecure attachment (Dienar, Nievar, & Wright, 2003).

Thus, it appears that a variety of factors put infants at risk of developing an insecure attachment, but that there is a common mechanism through which these effects occur – that of difficulties in parenting, specifically related to a hindered ability to parent sensitively or responsively. As such, interventions targeting these difficulties are warranted in order to enhance the parent-infant interaction, and influence infant attachment.

**Video-feedback interventions (VFIs).** The development of digital technology has made it possible to record and replay parent-infant interactions, thus enabling the parent to reflect on their role in the interaction and consider ways to adapt their behaviours. Indeed, the use of video-feedback in interventions which aim to modify parent-child interaction is becoming increasingly popular (e.g. Woodhead, Bland, & Baradon, 2006). A number of different VFIs have been developed, but VFI to Promote Positive Parenting (VIPP; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008) and related interventions have one of the largest evidence bases to date. VIPP is a preventative intervention which aims to increase parental sensitivity and positive interaction. It has been adapted for different target populations, including VIPP-SD (sensitive discipline; Bakermans-Kranenburg, Van IJzendoorn, Pijlman, Mesman, & Juffer, 2008), VIPP-R (insecure attachment representation discussions; Juffer et al., 2008), and VIPP-AUTI (autism; Poslawsky et al., 2014). In addition, the Video Interaction Project (VIP; Mendelsohn et al., 2005) draws on a similar framework to VIPP, attempting to enhance child socio-emotional development through supporting the parent-child relationship. Whilst the specifics of each of these interventions differs slightly (e.g. VIPP is a home-based intervention, whilst VIP is integrated into paediatric primary care settings), several core components are shared. In each intervention, the parent and infant are videotaped during activities (e.g. reading together) or daily situations (e.g. bathing) which are then reviewed and discussed by the parent and intervener. Video clips demonstrating positive, more sensitive, interactions are focused upon, in order to encourage these behaviours when negative interactions are observed. The format of the sessions are structured such that they focus on a number of specific themes (e.g.

‘affective attunement and sharing of emotions’, or additionally in the case of VIPP-SD, ‘limit setting’).

VFIs may be particularly beneficial in this context (over and above ‘in the moment’ observations) as they may better stimulate and increase a parent’s capacity for reflective functioning – a key component in Kolb’s (1984) learning cycle and a powerful predictor of infant-parent attachment security (Slade, 2005), as well as a range of adaptive social and emotional child outcomes (Steele & Steele, 2008). Reflective functioning enables parents to reflect on their child’s emotional and mental states, and respond appropriately, thus promoting a secure attachment.

**Research evidence.** Research indicates that VFIs can enhance maternal sensitive responsiveness in non-clinical populations through enabling mothers to become more aware of their infant’s signals and expressions and able to respond to these more appropriately (Kalinauskiene et al., 2009). A meta-analysis of 29 studies found that VFIs are effective in enabling parents to become more sensitive and skilled in their interactions with their infants, in addition to increasing parental self-confidence and reducing stress (Fukkink, 2008). However, this meta-analysis pooled studies selected on the basis of parental risk factors (such as insecure attachment representations or trauma histories) with those selected on the basis of infant risk factors or vulnerabilities (such as disability or very low birth weight). It is possible that VFIs may be differently tailored when provided to parents screened for vulnerabilities as compared to those without such vulnerabilities. This may also result in differential responses to treatment.

Another meta-analysis investigating the effectiveness of sensitivity and attachment interventions in early childhood (n=70 studies) concluded that those interventions with video-feedback were more effective than those without it (Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2003), perhaps as a result of their impact on reflective functioning noted above. Notably, the long-term effectiveness of VFIs was not considered in either the Fukkink (2008) or Bakermans-Kranenburg et al. (2003) reviews, calling into question the approach’s usefulness as a clinical intervention. If services are to

commission such an intervention, the longer-term benefits must be explored. Furthermore, the methodological quality of individual studies were not appraised in either review, nor were biases explored (by way of funnel plots, for example); this may have resulted in biases or flaws in research design being missed. Therefore, it is necessary that future reviews offer an appraisal of methodological rigour and limitations. Finally, as VFIs are becoming increasingly implemented, many more recent papers are not captured in these earlier reviews.

### **The present review**

Given the rapidly increasing use of VFIs in clinical research and practice, an updated systematic review of the effectiveness of VFIs in enhancing parent-infant interaction is timely. The current review explores the effect (including long-term outcomes) of VFIs on parent-infant interactions, in the context of parental risk factors and vulnerabilities. Additionally, if an intervention aimed at infant early intervention is to be commissioned within adult services, attention also needs to be given to the role of VFIs in improving parental outcomes directly (e.g. mental health symptomatology).

### **Aims**

Primarily, this review aims to establish the effect (including long-term outcomes) of VFIs on parent-infant interactions, in the context of parental risk factors. Specifically:

- Do VFIs modify parent-infant interactions (particularly parental sensitivity, responsivity, and emotional availability)?
- What is the evidence regarding the longer-term impact of VFIs on parent-infant interactions?

A secondary aim of this review is to examine whether VFIs impact upon parental outcomes (e.g. parental mental health).

### **Method**



The present systematic review was carried out in accordance with the PRISMA Statement (Moher, Liberati, Tetzlaff, & Altman, 2009).

**Search strategy for identification of studies.** Relevant papers were identified through searches conducted in the following electronic databases: Scopus, Web of Knowledge, PubMed and APA PsycNET. Given the relatively recent development of video-feedback as an intervention, it was not necessary to refine the search by publication date. Thus, databases were searched for articles published up to the end of August 2015. See Table 1. for the search terms entered into each database.

The reference lists of relevant review papers by Bakermans-Kranenburg et al. (2003) and Fukkink (2008) were manually searched to identify any articles that may have been missed. Citation searches of the above articles were also undertaken. Once eligible studies were identified, the reference list of each article was manually searched to identify further eligible articles.

Table 1.

*Search terms entered into each database*

Search term 1	AND	Search term 2	AND	Search term 3
“Video-feedback” OR “video feedback” OR “video intervention” OR “video self-model*” OR “video self model*” OR “video confrontation” OR “self-confrontation” OR “self-observation” OR “videotaped recorded playback” OR “video interaction” OR “circle of security” OR “Marte Meo”		“Parent-infant” OR “mother-infant” OR “father-infant” OR “caregiver-infant” OR “parent-child” OR “mother-child” OR “father-child” OR “caregiver-child” OR “parent-baby” OR “mother-baby” OR “father-baby” OR “caregiver-baby”		“Interact*” OR “relation*”

**Inclusion criteria.** Specific inclusion and exclusion criteria were applied to determine study eligibility as detailed in Table 2. The scope of this

review was limited to explore only randomised controlled trials (to ensure evaluation of only the best quality evidence available) that selected participants on the basis of parent characteristics. This is because interventions targeting parenting behaviour and parent-infant interactions in those parents who are in some way disadvantaged (e.g. low socioeconomic status, mental health problems) are likely to vary in approach and outcomes from those interventions targeting behaviours in parents of at-risk infants (e.g. those born at very low weight or deaf) who are otherwise functioning appropriately. For the purposes of this review, studies selecting on the basis of child externalising behaviour were also included ( $n = 2$ ) as parenting behaviours have been identified as key predictors of the development and maintenance of externalizing behaviours in children (e.g. Stormshak, Bierman, McMahon, & Lengua, 2000).

The age range of participating infants was limited to a maximum of 36 months old on average. This was because the first three years of life have been cited as a sensitive period for the development of attachment (Bowlby, 1969), the quality of which can be predicted by the quantity and quality of the parent-infant interaction (e.g. parental sensitivity and responsivity).

In summary, the population, intervention, comparator, and outcome (PICO; Stern, Jordan, & McArthur, 2014) criteria were as follows:

*Population:* Biological parent and infant dyads (mean age of infant sample under 36 months), in which participants were selected on the basis of a parental risk factor.

*Intervention:* VFI, which comprised at least 75% of sessions.

*Comparator:* Active intervention or a wait-list/treatment as usual group.

*Outcome:* Changes in parent-infant interaction as a primary outcome measure.

Table 2. *Study Inclusion and exclusion criteria*

Inclusion criteria	<ul style="list-style-type: none"> <li>Randomised controlled trial: Quantitative design with at least one control group (regardless of</li> </ul>
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whether this was another active intervention or a wait-list/treatment as usual group).

- Investigate the use of VFI.
- Select participants on the basis of a parental risk factor (e.g. maternal mental health, maternal insecure attachment, family interaction problems, low maternal sensitivity, socioeconomic concerns such as low-income and low education, and child externalising behaviour).
- Examine changes in parent-infant interaction as a primary outcome measurement.
- Recruit biological parents as the caregiver.
- Recruit infants under the age of 36 months. In studies where a range of ages were recruited, the average age of the infant needed to be below 36 months.

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Exclusion  
criteria

- Study not available in English, as translation services were not available.
- Study had not been subject to the peer-review process or was an unpublished thesis.
- Only a conference abstract was published, as meaningful conclusions could not be drawn from an abstract alone.
- Non-randomised controlled trial design (due to concerns about methodological quality, and generalisability of findings).
- Video-feedback component was not reported to comprise a significant part of the intervention (i.e. utilised in over 75% of sessions).
- Study selected participants on the basis of infant risk factors (e.g. born prematurely, infant born deaf).

- 
- Study examined outcomes in non-biological parents (e.g. looked at professional caregivers). This is because one aim of the review was to examine whether VFIs may be appropriate for use within the field of post-natal mental health, and synthesis of results from interventions within group-care settings was not deemed appropriate.

**Quality assessment.** The methodological quality of each study was assessed by the author, according to the Effective Public Health Practice Project 'Quality Assessment Tool for Quantitative Studies' (EPHPP, 2007). This Assessment Tool is deemed suitable for use in systematic reviews of effectiveness (Deeks et al., 2003) and its use has been endorsed in the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2008). Blinding to the publication details was not possible, as the reviewer had carried out the database searches and screening of studies. Further, resource constraints meant that it was not practicable for a second, independent, reviewer to rate the studies.

In accordance with the Assessment Tool, papers were rated as, 'Strong', 'Moderate', or 'Weak' on six components: Selection Bias, Study Design, Confounders, Blinding, Data Collection Methods, and Withdrawals and Drop-outs. Scores from these six components were then used according to the Assessment Tool's guidance to determine a Global Rating for each paper (studies were assigned a 'strong' global rating if no components were rated as 'weak', a 'moderate' global rating if one component gained a 'weak' rating, and a 'weak' global rating if two or more components were rated as 'weak'). Intervention Integrity and Analyses were also reviewed, but were not given a 'Strong', 'Moderate', or 'Weak' rating, as per the format of the Assessment Tool.

## Results

The flow diagram in Figure 1 depicts the identification and screening process for the present review. The search retrieved 495 records; 161 were duplicates and 32 were not available in English. The titles and/or abstracts of all remaining studies were reviewed against the inclusion and exclusion criteria; 245 studies were excluded (244 did not meet the inclusion criteria and one article (Jansenns & Kemper, 1996) could not be sourced).

57 articles were assessed for eligibility through reviewing the full text; 14 met the full inclusion criteria. Studies were excluded because: the average age of infants was over 36 months old ( $n=15$ ), the design was not a randomised controlled trial ( $n=5$ ), the age of infants could not be determined ( $n=4$ ), the sample had no parental risk factors ( $n=8$ ), parent-infant interaction was not identified as a main outcome measure ( $n=6$ ), video-feedback was not a core intervention feature or this could not be determined ( $n=4$ ), or only the study protocol was reported ( $n=1$ ).

Of the resultant 14 articles, three report the results of one intervention study (Bakermans-Kranenburg, Juffer, & Van Ijzendoorn, 1998; Velderman, Bakermans-Kranenburg, Juffer, & Van Ijzendoorn, 2006a; Velderman et al., 2006b). Thus, to avoid multiple publication bias, data from the three articles were pooled and are hereafter referred to by the first paper published (Bakermans-Kranenburg et al., 1998). A further two studies also report the results of one intervention (Berkule et al., 2014; Mendelsohn et al., 2011); they were pooled and are referred to by the first paper published (Mendelsohn et al., 2011).

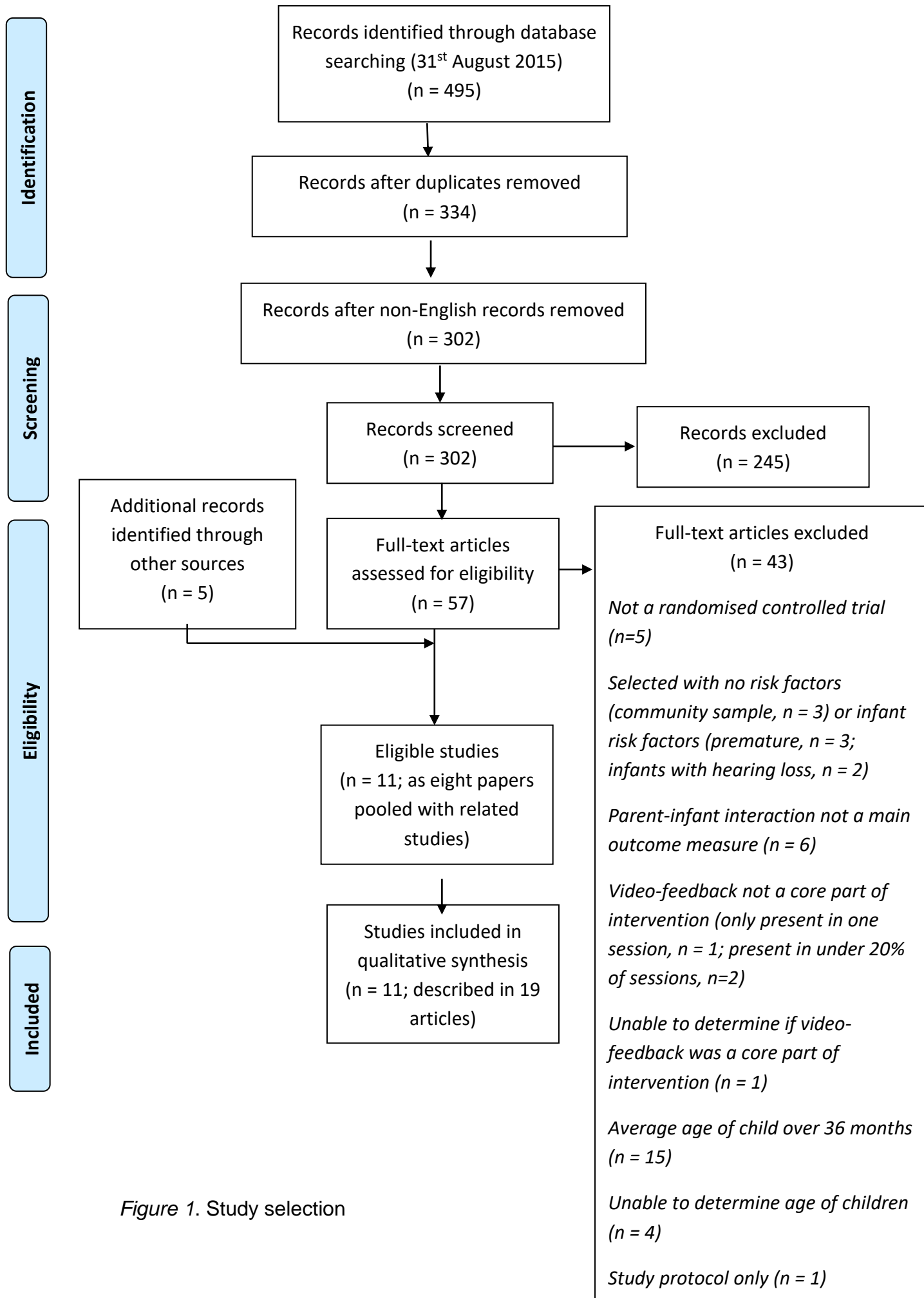


Figure 1. Study selection

Searches of secondary sources (review papers by Bakermans-Kranenburg et al. (2003) and Fukkink (2008)) and a citation search revealed a further five articles meeting the search criteria. However, each of the five studies described the same intervention as existing studies. One described the same intervention as Van Zeijl et al. (2006) but with a focus on process variables (Stolk et al., 2008). Another described the same study as Negrão et al. (2014) but with a different focus (Pereira, Negrão, Soares, & Mesman, 2014). Three others built upon results of an already identified intervention study (Landry, Smith, & Swank, 2006) by exploring the influence of parental resources (Smith, Landry, & Swank, 2005), the impact of parenting profiles and predictors of change (Guttentag, Pedrosa-Josic, Landry, Smith, & Swank, 2006), and by administering a follow-up intervention (Landry, Smith, Swank, & Guttentag, 2008). Therefore, results from the related papers were pooled and are referred to by the first paper published (Van Zeijl et al., 2006; Negrão et al., 2014; and Smith et al., 2005, respectively). Thus, 11 studies (described in 19 articles) were eligible for inclusion in the present review.

## **Description of studies**

Key characteristics and outcomes of each study included in this review are detailed in Table 3.

**Study design.** All studies employed a randomised controlled trial (RCT) design. Three studies employed a standard care/treatment as usual control condition, whilst six studies used a ‘dummy’ intervention as a comparison. One study had an active comparison condition (supportive counselling) and one study employed both an active comparison intervention (Building Blocks; BB) and a standard care control. Sample sizes ranged from 30 to 410 dyads.

All studies collected at least one pre- and post-intervention measure, and three provided follow-up data.

**Participant characteristics.** Participants were recruited according to specific parental risk factors: parental insecure attachment representations, low parental sensitivity, interaction difficulties, low income, education, or socio-economic status, concerns regarding parenting (as reported by health and social work agencies), externalising behaviour in the infant, and parental mental health problems. Data from ten studies were collected from solely from the biological mother of the infant. Fathers were invited to participate in all sessions of one study, in the two 'booster' sessions offered by two studies, and in the one 'booster' session offered by a third. Rates of paternal participation varied.

Studies generally reported the mean age of mothers and infants. Where reported, mean maternal ages ranged from 26.4 to 33.15 years. Infant ages at pre-intervention ranged from approximately two weeks to a mean of 33.6 months.

**Interventions.** Most studies (n=10) compared a single type of VFI with a control group. Of these, seven followed standardised treatment protocols, whilst three employed protocols which included video-feedback as a key component of the intervention. The number of sessions offered by interventions ranged from 4 to 13, with a duration of between 30 minutes and three hours. Session frequency varied from weekly, to monthly (with booster sessions being offered up to every other month).



Table 3.

*Summary of study characteristics and key outcomes*

Study	Study Design	Risk characteristic	Sample size (Number of dyads)	Mean age of parent	Intervention condition (n assigned to condition): Intervention details	Key Outcomes
	Data Collection Design	Country		Mean age of infant	Control/comparison condition(s) (n assigned to condition)	
Bakermans-Kranenburg et al. (1998) (including Velderman et al. (2006a) & Velderman et al. (2006b))	RCT	Insecure adult attachment (AAI).	30	26.8 years	Standardised treatment protocols  VIPP (10): 4 sessions; 1.5hrs; every 3-4weeks.  VIPP-R (10): 4 sessions; 3hrs; every 3-4weeks.	Sensitivity: Significant intervention effect ( $p=.01$ ; $d=.87$ ). No difference between intervention groups on sensitivity scores.
	Post-treatment data only.			7 months	TAU (10)	
			81	27.8 years	Intervention details as above. VIPP (28) VIPP-R (26)	Sensitivity: Intervention mothers had significantly higher sensitivity scores than control mothers ( $p<.05$ , $d=.49$ ).

	Pre- and Post-treatment data.	The Netherlands		6.83 months	TAU (27)	Pre-post intervention effect on sensitivity (p<.05, d=.46).
	Follow-up data only (infants 40months old).		77	Data only available for the initial sample size of 81, above.	Intervention details as above. VIPP (27) VIPP-R (24)	Sensitivity: No significant long-term intervention effect (d=.04).
					TAU (26)	
Høivik et al. (2015)	RCT	Parent-infant interaction problems.	132 families	29.7 years	Standardised treatment protocol  VIPI (75): 6 sessions; weekly; duration unreported	Emotional Availability: Significant intervention effect (p=.03).  Significant increase in emotional availability scores post-intervention in mothers with mild-to-moderate (but not low) depressive symptoms in VIPI group as compared with TAU group.
	Pre-, Post-treatment, and 6 month follow-up data.	Norway		7.3 months	TAU (57)	No intervention effect at follow-up.
Kalinauskiene et al. (2009)	RCT	Maternal insecure attachment representation according to ASS.	54	26.4 years	Standardised treatment protocol  VIPP (26): 5 session; 90 minutes; monthly	Sensitivity (sensitive responsiveness): Significant intervention effect (p=.01; d=.78).

	Pre- and Post-treatment data.	Lithuania		Intervention began at 7 months of age	'Dummy' intervention control (28): 5 x monthly phone contacts.	
Mendelsohn et al. (2007)	RCT	Low education	99	29.8 years	Standardised treatment protocol  VIP (52): 12 sessions; 30-45 minutes; taking place when infant between 2 weeks and 3 years old; frequency unreported.	Responsivity: Non-significant trend towards greater improvements in verbal responsivity in VIP families.
	Pre- and Post-treatment data.	USA (Latino mothers)		Infants on average 33.6months.	TAU (47)	
Mendelsohn et al. (2011) (including Berkule et al. (2014))	RCT	Low-income	410	VIP = 27.52 years Building Blocks = 26.79 years Control = 27.76 years	Standardised treatment protocol  VIP (126): Up to 4 visits; 30-45 minutes; by the time infant is 6 months old; frequency unreported.	Responsivity: Significant intervention effect of VIP over control ( $p=.01$ ; $d=.38$ )  Increased StimQ-I scores found for the VIP ( $d=.51$ ; across all domains) and Building Blocks ( $d=.31$ ; across two domains – not including
	Pre- and Post-treatment data.	USA (predominantly		Intervention commenced	Building Blocks (150; active comparison): Five mailings	

Negrão et al. (2014) (including Pereira et al. (2014))		Hispanic/Latino immigrants)		within two weeks of birth.	received by the time the infant is 6 months old.  TAU (134)	responsivity) groups, when compared with the control group.  Mental Health: Mean depression score was significantly lower for VIP mothers than control mothers (d=.34).
	RCT	Risk related to quality of family relations or parenting.	43	29.86 years	Standardised treatment protocol  VIPP-SD (22): 6 sessions; fortnightly. Followed by 2 x monthly boosters. Duration of sessions not specified.	Sensitivity: No significant intervention effect on sensitivity.  Intervention effect on non-intrusiveness (p<.001) and overall emotional availability (p<.05).
	Pre- and Post-treatment data.	Portugal		28.44 months	'Dummy' intervention control (21): 6 x 10 minute telephone calls.	Infant responsivity: Significant intervention effect (p<0.05).
Smith et al. (2005) (including Landry et al. (2006); Landry et al. (2008), & Guttentag et al. (2006))	RCT	Low-income	241	Intervention group: 27.9 years Control group: 27.0 years	Protocol with video-feedback as key component	Sensitivity: Intervention effect of PALS (versus control; p=.0001, d=.49)

					Playing and Learning Strategies (PALS; 121): 10 sessions; 90 minutes; weekly.	Responsivity: Intervention effect of PALS (versus control; $p=.001$ , $d=.93$ ).
	Pre-, Interim, End of treatment and 3 months post-treatment data.	USA		5.5 months on average at pre-test	Developmental Assessment Screening (DAS; 120; active comparison): 10 sessions, weekly.	
	Pre-, Interim, End of treatment and 3 months post-treatment data.	Follow up to above part of the study. Eligible to continue to second part if infant aged between 24 and 28 months.	166	Data not reported.	<p>Protocol with video-feedback as key component</p> <p>PALS2 having received PALS1 (34)</p> <p>PALS2 having received DAS1 (50)</p> <p>PALS2 Intervention: 11 sessions; 90 minutes; weekly.</p>	<p>Responsivity: Mothers who received PALS1 and PALS2 showed higher levels of contingent responsiveness at post-test than the other three groups (<math>p=.024</math>, <math>d=.51</math>).</p> <p>Mothers who received PALS1 showed greater sensitive warmth at post-test compared with those who received DAS1, regardless of second</p>

				Mean age at pre-test = 30.2 months.	<p>DAS2 having received DAS1 (49)</p> <p>DAS2 having received PALS1 (33)</p> <p>DAS2 Intervention (active comparison): 11 x 90 minutes, weekly.</p>	<p>intervention assignment (<math>p=.021</math>, <math>d=.29</math>).</p> <p>Infant co-operation: Children in PALS2 condition showed greater co-operation at post-test (<math>p=.044</math>, <math>d=.30</math>) and displayed higher levels of eye gaze, positive affect, and communication with their mothers (<math>p=.006</math>, <math>d=.32</math>). Faster rates of increase occurred if mothers had also received PALS1 (<math>p=.043</math>, <math>d=.28</math>).</p>
Stein et al. (2006)	RCT	Bulimia nervosa or similar form of eating disorder of clinical severity.	77	<p>Intervention group: Median = 31 years (range = 19-45)</p> <p>Control group : Median = 29 years (range = 20-43).</p>	<p>Non-standardised protocol</p> <p>Video feedback interactional (38): 13 sessions; 60 minutes; weekly.</p>	<p>Responsivity: Intervention effect on non-verbal responsivity (<math>p=.05</math>).</p> <p>Intervention effect on maternal facilitation (<math>p=.002</math>) and conflict (<math>p=.007</math>).</p> <p>Intervention group perceived themselves to be significantly more helped with their relationships with</p>

	Pre- and Post-treatment data.	UK		Intervention began when infant was between 4 and 6 months old, completed by 12 months.	Supportive counselling (39; active comparison)	their infants than those in the control group ( $p<.001$ ).  Mental Health: No significant intervention effects on eating disorder psychopathology or depression.
van Doesum et al. (2008)	RCT	Depressive disorder	71	Intervention group: 29.9 Control group: 30.4	Non-standardised protocol  Video-feedback group (35): 8-10 sessions; 60-90 minutes; weekly. Then fortnightly, over 3-4 month period.  Dosage flexible, based on need.	Sensitivity: Intervention effect on sensitivity ( $p<.01$ , $d=.57$ ) and structuring ( $p<.01$ , $d=.38$ ).  Mental Health: No significant between group differences on level of depression at post-test (significant reductions occurred in both; $p<.01$ ).
	Pre-, Post-treatment, and Follow-up (6 months after post-test) data.	Netherlands		Intervention group: 5.8 months Control group: 5.2months	'Dummy' intervention control (36): 3 x 15 minute telephone calls.	Infant Responsivity: Intervention effect on responsiveness ( $p<.05$ , $d=.67$ ) and involvement ( $p<.01$ , $d=.57$ ).

Van Zeijl et al. (2006) (including Stolk et al. (2008))	RCT	Child externalising behaviour difficulties.	237	33.15 years	Standardised treatment protocol VIPP-SD (120): 6 sessions; 90 minutes; 4 x monthly, followed by 2 x 'boosters' every other month.	Sensitivity: Intervention effect on attitudes towards sensitivity ( $p < .01$ ) and sensitive discipline ( $p < .05$ ), and positive discipline ( $p < .01$ ).
	Pre- and Post-treatment data.	Netherlands		26.99 months	'Dummy' intervention control (117): 6 telephone calls (4 x monthly, 2 x every other month).	
Yagmur et al. (2014)	RCT	Child externalising behaviour difficulties.	76	29.96 years	Standardised treatment protocol VIPP-TM (36): 6 sessions; 2.5-3 hours; frequency not reported.	Sensitivity: Intervention effect on sensitivity ( $p < .05$ , $d = .46$ ) and non-intrusiveness ( $p < .01$ , $d = .62$ ), but not on discipline, laxness, or supportive presence.
	Pre- and Post-treatment data.	Netherlands (second generation Turkish mothers).		30.83 months	'Dummy' intervention control (40): 6 x 15-30 minute telephone calls.	

Note. TAU – Treatment as Usual; StimQ-I - StimQ Cognitive Home Environment-Infant.



## **Quality assessment results**

Quality appraisal results are summarised in Table 4. All studies were given a Global Rating of either 'Strong' or 'Moderate'. Studies were generally representative of the target population. However, there were low rates of agreement to participate (defined here as agreeing to participate and not disengaging prior to allocation to condition) in two studies (45%, Negrão, Pereira, Soares, & Mesman, 2014; 55%, Van Zeijl et al., 2006), thus increasing the risk of selection bias. Pre-intervention homogeneity between intervention and control groups was assessed in all studies; whilst the majority of studies found no significant pre-intervention differences, those that did controlled for them in subsequent analyses. Where reported, outcome assessors were blind to the allocation status of the participants. Whilst all studies reported intervention procedures in sufficient detail to enable replication, and most reported levels of therapist training and followed treatment protocols, procedures to ensure treatment fidelity were only discussed in six studies.

Nine studies employed objective interviews or observer-rated measures in order to assess key outcomes of parenting and parent-child interactions. Of these thirteen, most used standardised assessment measures, but one used scales derived specifically for the study, without detailing validity or reliability (Stein et al., 2006). Two studies employed a mixture of observer-rated and self-report measures, which may limit the validity of findings, as self-report measures are susceptible to social desirability bias and rely on the participants' ability to be introspective. Attrition rates were reported in 10 studies, and ranged from 2% to 55% post intervention, and 7% to 29% at follow-up.

Table 4.

*Summary of Quality Assessment Ratings*

<b>Article</b>	<b>Selection Bias</b>	<b>Study Design</b>	<b>Confounders</b>	<b>Blinding</b>	<b>Data Collection Method</b>	<b>Withdrawals and Drop-out</b>	<b>Global Rating</b>
Bakermans-Kranenburg et al. (1998) (including Velderman et al. (2006a) & Velderman et al. (2006b))	2	1	1	1	1	1	<b>1</b>
Høivik et al. (2015)	2	1	1	1	1	1	<b>1</b>
Kalinauskiene et al. (2009)	2	1	1	2	1	3	<b>2</b>
Mendelsohn et al. (2007)	2	1	1	2	1	2	<b>1</b>
Mendelsohn et al. (2011) (including Berkule et al. (2014))	2	1	1	2	1	2	<b>1</b>
Negrão et al. (2014) (including Pereira et al. (2014))	3	1	1	2	1	2	<b>2</b>
Smith et al. (2005) (including Landry et al. (2006); Landry et al. (2008), & Guttentag et al. (2006))	2	1	1	2	1	1	<b>1</b>
Stein et al. (2006)	2	1	1	2	3	1	<b>2</b>
van Doesum et al. (2008)	2	1	1	2	1	1	<b>1</b>
Van Zeijl et al. (2006) (including Stolk et al. (2008))	3	1	1	2	1	1	<b>2</b>
Yagmur et al. (2014)	2	1	1	2	1	1	<b>2</b>

*Note.* 1=Strong; 2=Moderate; 3=Weak;

## Outcomes

For the purposes of this review, findings have been summarised in line with the aims of the review (first, to examine short and long-term findings in relation to parent-child interactions, and secondly, parent health outcomes).

### Primary outcomes

**Parent-child interactions.** Findings have been grouped into two categories and are reported below: Parental interaction outcomes (specifically, parental sensitivity, responsivity and emotional availability); and infant interaction outcomes (infant co-operation, responsivity, and attachment).

*Parental interactions overview.* Ten studies examined parental sensitivity (n=7) or/and parental responsivity (n=4), whilst one examined parental emotional availability (of which parental sensitivity is a part). Findings were generally in agreement, with all but two (Negrão et al., 2014; Mendelsohn et al., 2007) reporting a post-intervention effect of video-feedback on measures of parental interactions (although both note improvements in the anticipated direction).

Studies assessed parental interactions in one of four ways, one of which is a structured interview and two of which are validated and reliable manualised methods of observation, as follows: STIM-Q Cognitive Home Environment (Dreyer, Mendelsohn, & Tamis-LeMonda, 1996; 2 studies); Emotional Availability Scales (Biringen, Robinson, & Emde, 1998; 4 studies); Ainsworth's Sensitivity Scales (Ainsworth, Bell, & Stayton, 1974; 2 studies). Bakermans-Kranenburg et al. (1998) used both the Emotional Availability Scale and Ainsworth's Sensitivity Scales. The final method was a non-manualised observation of parent-infant behaviours (2 studies; Smith et al., 2005; Van Zeijl et al., 2006), which calls into question the validity and reliability of measurement. Nevertheless, inter-rater reliability was deemed sufficient in both studies and both methods of coding drew from that of

previous studies, thereby increasing the validity of these observation assessment measures. As such, this did not compromise either study's score on the 'data collection method' section of the quality assessment rating tool.

*Sensitivity outcomes (including emotional availability).* Results indicate that focused VFIs for mothers with insecure attachment representations (VIPP, Kalinauskiene et al., 2009; VIPP and VIPP-R, Bakermans-Kranenburg et al., 1998) lead to increased post-intervention sensitivity scores when compared with controls. Of note, Bakermans-Kranenburg et al. (1998) highlighted no superiority of VIPP-R over VIPP; both interventions produced significantly more sensitive mothers than in the TAU control group (and had greater pre-post increases in sensitivity scores), indicating that discussions of parental childhood experiences and attachment representations may not be of additional benefit. What is more, Bakermans-Kranenburg et al. (1998) found an interaction between maternal sensitivity and infant reactivity; at post-test maternal sensitivity was found to be higher for mothers of highly reactive infants in the intervention groups, compared with mothers of highly reactive infants of the control group. However, sensitivity did not differ between intervention and control groups for mothers of less reactive infants. In contrast, Kalinauskiene et al. (2009) did not find such an effect, although the sample size was smaller (n=54). Nevertheless, findings indicate a potential moderating effect of both maternal attachment representation and infant reactivity on maternal sensitivity scores following VFI.

Additionally, although not statistically significant, there is emerging evidence to suggest that intervention type may interact with maternal attachment style; Bakermans-Kranenburg et al. (1998) found (with large effect sizes and a relatively large sample size) that dismissing mothers in the VIPP group had higher post-intervention sensitivity scores than either preoccupied mothers in the VIPP group or dismissing mothers in the VIPP-R group, with a similar finding for preoccupied mothers in the VIPP-R group.

In agreement, when comparing a VFI (PALS) with an active control (DAS), Smith et al. (2005) found that mothers (screened for low income) in the intervention group displayed significant improvements in all aspects of emotional support (including warm sensitivity). Whilst the interventions were administered at a second time point (when the child was a toddler), mothers who received PALS when their child was an infant showed greater warm sensitivity at post-test compared with those who received DAS in infancy, regardless of second (toddler) intervention assignment. This may indicate a sensitive period in which VFIs exact their impact upon parental sensitivity.

Two studies examined interactions in mothers of children with externalising behaviour difficulties, with mixed results. Research by Van Zeijl et al. (2006) found increased displays of positive discipline and more favourable attitudes towards sensitivity and sensitive discipline in intervention mothers (VIPP-SD as compared with 'dummy intervention' control). It is of note that this study assessed maternal attitudes towards sensitivity and sensitive discipline by way of an unpublished self-report measure (a 10cm line on which participants marked their level of agreement to statements). Therefore, the reliability and validity of such a measure is called into question and findings must be interpreted with caution. This study screened participants on the basis of child externalising behaviour difficulties and so participant demographics may differ to other studies in this review; there was an over-representation of families from higher socioeconomic backgrounds. Non-Caucasian families were also excluded, therefore generalisation is further limited. An additional limitation of this study is the low levels of agreement to participate (44% of eligible families declined to take part); there is an increased risk of selection bias and as such, the study received a 'weak' quality assessment rating for this component.

Whilst the Turkish adaptation of VIPP-SD also found a significant intervention effect (VIPP-TM versus 'dummy intervention' control) on maternal sensitivity, in addition to non-intrusiveness, it failed to find an intervention effect on discipline, laxness, or supportive presence (Yagmur et al., 2014). However, the generalisability of findings from this study is also

significantly limited, given that recruitment was restricted to second-generation Turkish immigrant mothers living in the Netherlands.

Høivik et al. (2015) reported that in mothers deemed at risk due to parent-infant interaction problems, those in the intervention group (VIPI) had significantly improved emotional availability post-intervention than those who received TAU; this effect was particularly pronounced for those with lower emotional availability scores pre-intervention. Parental depression, in addition to personality disorder traits, moderated the effects of VIPI on emotional availability scores (significant intervention effects on improved emotional availability were found in those mothers with mild-to-moderate depression but not in those with few depressive symptoms). Notably, parental sensitivity is a subscale of the emotional availability measure used in this study (Emotional Availability Scales; Biringen, Robinson, & Emde, 1998), but only total emotional availability scores were reported. Of the 132 families that took part, both parents from 23 families took part. However, as data was only collected from one parent, only two fathers took part in data collection. Whilst it was not appropriate to partition results from those fathers, it would have been interesting to explore potential differences between mothers and fathers, had data been collected from more fathers. This is something lacking in the literature to date. It is important to note that the definition of parent-child interaction problems was broad and were reported by either health and social workers or the parent themselves. Whilst problems included insensitive parenting, worries about the child's development, and parental mental health difficulties, it is unclear whether these applied to one or both parents. It is therefore plausible that in some cases parent-infant interaction problems occurred in only one of the two parents and yet data was collected on the other parent. This may have skewed results.

Research by van Doesum et al. (2008), who provided tailored video-feedback sessions to mothers with a diagnosed depressive disorder, support the above findings that VFIs result in higher maternal sensitivity, and indicate that VFIs are also effective when implemented more flexibly. In contrast to

the findings of Høivik and colleagues (2015), the intervention effects were not related to severity or chronicity of maternal depression. Additionally, following intervention, mothers had higher levels of structuring than the control group, but there was no intervention effect on maternal non-intrusiveness or non-hostility. Although video-feedback was the core intervention technique in this study, other techniques such as baby massage and modelling were implemented according to need. Further details regarding how many participants were provided with these additional intervention methods were not provided and may therefore confound results.

Less positive results have been observed by Negrão et al. (2014), who screened participants for risk related to quality of family relations or parenting. Improvements in sensitivity, structuring and non-hostility failed to reach significance in the VIPP-SD group, although scores moved in the anticipated direction (they increased from pre-test to post-test). In contrast, scores of sensitivity and structuring reduced from pre-test to post-test in the control group, indicating that the intervention did provide some benefit. However, they did find VIPP-SD (versus 'dummy intervention' control) to be effective in reducing parental intrusiveness (supporting van Doesum et al., 2008). The intervention was targeted at reducing harsh discipline, yet this only occurred under conditions of higher parenting stress. With regards to family environment, VIPP-SD resulted in significantly improved cohesion, but not expressiveness or conflict. Notably, just 45% of those eligible agreed to participate in the study and 20% dropped out following randomisation to conditions (study quality for risk of selection bias was rated as 'weak' and risk of attrition bias rated as 'moderate'). Moreover, the small sample size may mean that the study does not have enough power to detect between-group differences.

*Responsivity outcomes.* Smith and colleagues (2005; VFI versus active control) found that mothers in the intervention group displayed significant improvements in contingent responsiveness. When the interventions were administered at a second time point (when the child was a toddler), mothers who received the VFI intervention at both time points

showed higher levels of contingent responsiveness and had lower levels of redirecting, in addition to faster decreases in this behaviour at post-test than those who did not. Thus, VFIs may be effective in improving many aspects of maternal emotional support (including warm sensitivity and contingent responsiveness) in mothers deemed at risk due to low income. There may also be a dosage effect, such that receiving video-feedback (PALS) at two time points may result in even higher levels of these behaviours.

Similarly, when compared to an active control group (BB; Mendelsohn et al., 2011), both VIP and the active control resulted in increased scores of cognitive home environment (as measured by the StimQ-I), when compared with TAU. However, whilst BB only resulted in increases across two of the four domains of the StimQ-I (not including parental verbal responsivity), VIP produced increases in all four domains, including parental verbal responsivity. Given that the StimQ-I is a parent-reported measure, it is more susceptible to bias than an observational measure may be. Like the study by Smith and colleagues (2005), Mendelsohn and colleagues (2011) noted an effect of VIP dosage, such that those who attended all four sessions had increased parental verbal responsivity scores, compared with those who attended fewer sessions. However, the study (which recruited predominantly Hispanic/Latino low-income immigrant families – a factor which limits generalisability) states that four sessions of VIP were offered from the time that the infant was two weeks and completed by six months. It does not give further information on the average frequency of sessions. It is possible that there may be a frequency effect, such that those who attended weekly sessions for example, had better outcomes than those who attended sessions less than monthly. However, this cannot be determined.

A further study found that whilst VFIs may result in increased appropriate non-verbal responses and maternal facilitation, and reduced conflict when compared with supportive counselling for bulimia nervosa and similar eating disorders, this may not be the case for the number of appropriate verbal responses to their infant, nor maternal intrusiveness (Stein et al., 2006), . Nevertheless, mothers in the intervention group perceived themselves to be



more helped with their relationships with their infants than mothers in the comparison group. It is of note that the VFI focused principally on enhancing interactions during mealtimes, and therefore results have limited generalisability to other settings or populations. Additionally, mothers in both conditions received guided cognitive-behaviour self-help for their eating disorder during half of each of their first eight sessions. Whilst the guided self-help focused solely on the eating problem and not the parent-infant relationship, it is possible that this may have diluted the effectiveness of the intervention. Nevertheless, it would have been unethical to allow the eating problems to continue untreated.

Relatedly, when comparing VIP with TAU in parents screened on the basis of poverty and low-education, a trend towards an intervention effect on parental responsivity was reported, but this trend was non-significant (Mendelsohn et al., 2007).

*Parental interactions summary.* Intervention effects of video-feedback on maternal sensitivity, emotional availability, and responsivity, have been demonstrated for various samples, including mothers with mental health difficulties, mothers at risk due to low income or education, mothers with insecure (but not secure) attachment representations, and mothers of children with externalising behaviours.

A variety of VFIs were reported to be successful in improving maternal interaction outcomes, such as VIPP, VIPP-R, and VFIs more broadly and more flexibly applied. VIPP-SD on the other hand, produced mixed results, with two out of three studies finding a significant intervention effect on maternal sensitivity. Interestingly, one study reported no superiority of VIPP-R over VIPP, calling into question the need for additional discussions about maternal attachment representations. Additionally, although mixed, results may indicate a potential moderating effect of both maternal attachment representation and infant reactivity on maternal sensitivity scores. There is also emerging (but very preliminary) evidence to suggest that intervention type may interact with maternal attachment style, such that mothers

classified as dismissing may most benefit from VIPP, whereas mothers classified as preoccupied may most benefit from VIPP-R. There is also preliminary evidence which indicates a dosage effect on parental involvement and verbal responsiveness.

*Infant interactions.* Three studies examined the effects of VFIs on infant co-operation and responsiveness. Smith et al., (2005) found that toddlers (mean age pre-intervention=30.2 months) of mothers who had received the VFI (PALS versus active intervention DAS) were more likely than their counterparts to show more co-operative behaviours (e.g. to their mother's requests) post-intervention, regardless of whether they had also received the intervention in infancy. However, they noted that rates of increase in co-operation were faster if the infants had previously received the VFI in infancy. Smith et al. (2005) also reported a similar pattern of results for improvements in toddler eye gaze, positive affect, and communication with their mothers. Notably, levels of maternal contingent responsiveness, verbal encouragement, and restrictiveness mediated these infant effects of receiving the intervention at time point one. Levels of maternal sensitivity, contingent responsivity and avoidance of redirecting mediated intervention effects of child behaviour outcomes at time point two.

The above findings are in line with two studies which both found improvements in infant responsiveness and involvement post-intervention (Negrao et al., 2014; van Doesum et al., 2008). Whilst Negrao et al. (2014) provided manualised VIPP-SD to parents screened for health and social work-reported concerns risk related to quality of family relations or parenting, van Doesum et al. (2008) implemented video-feedback more flexibly; both compared against a 'dummy' intervention control of supportive telephone calls.

Taken together, results indicate that VFIs are effective in increasing infant co-operation with their parent (regardless of whether their parent was recruited due to concerns around parenting, depression, or risk due to low income). Results also indicate that infant outcomes may be mediated by

parental factors such as levels of maternal contingent responsiveness, sensitivity, and restrictiveness. VFIs may further result in improvements in infant responsiveness and involvement (in infants of parents at risk due to concerns about quality of family relationships or parenting, and those with depression).

It is also important to comment upon the relationship between improvements in parental sensitivity and changes in infant attachment style. Two studies (both of which found an intervention effect on parent-infant interaction) reported infant attachment outcomes. Kalinauskiene et al. (2009), found no effect of intervention on infant attachment security following VIPP (versus 'dummy' intervention control) with mothers screened for attachment insecurity. They also failed to find an interaction effect of high versus low infant reactivity and condition on attachment security. Again, sample size was relatively low. Similarly, when investigating the effects of VIPP and VIPP-R versus TAU in mothers screened for insecure adult attachment representations, Bakermans-Kranenburg et al. (1998) also found no effect of intervention on the number of securely attached infants, nor did they find an interaction between intervention and infant reactivity on attachment security. Infant reactivity was measured using a parent-report measure which, although validated, may have been susceptible to maternal bias. What is more, given that participants were randomised to one of three conditions, the sample size may have resulted in analyses being underpowered to detect differences. However, they did find that for highly reactive infants (but not less reactive infants) attachment security was significantly associated with maternal gains in sensitivity between pre- and post-test. This may indicate a differential susceptibility, such that highly reactive infants may be more susceptible to the environmental changes induced by the intervention than less reactive infants.

In sum, the present research failed to find an effect of video-feedback on infant attachment. However, it is of note that only two of the studies in this review reported on infant attachment outcomes and so findings must be generalised with caution.

**Long-term outcomes.** Three studies reported follow-up measures (follow-up range = 6 months to 27 months). With regards parental interaction outcomes, one study found between-group differences in maternal sensitivity post-intervention (VIPP and VIPP-R versus TAU) which did not persist 27 months later (infants approximately 40 months old; Bakermans-Kranenburg et al., 1998). Similarly, the study which found a post-intervention effect for emotional availability scores when comparing VIPI with TAU (Høivik et al., 2015), reported that scores had increased in both groups at 6 month follow-up. Additionally, results from a follow-up study of VIP versus TAU (Mendelsohn, 2007) indicate that when infants were around 33 months old, parents reported significantly lower parenting stress and distress, and they scored higher on measures on parental involvement in developmental advancement. With regards to infant interaction outcomes, one study found an intervention effect on increased attachment security (VF versus “dummy” intervention control) six months following the intervention (van Doesum et al., 2008).

To summarise, whilst there appears to be some long-term benefit from VFIs when compared with TAU in terms of reduced parental concerns about infant development and increased infant attachment security, the most striking follow-up outcome is the lack of enduring intervention effects on maternal sensitivity and emotional availability. It appears that mothers in the control group may be able to ‘catch up’ on these key skills. However, it is important to note that only three of the studies included in this review reported follow-up data and as such, findings must be considered preliminary. Nevertheless, each of those studies presenting follow-up data received a global rating of ‘strong’ on the quality assessment tool, thus demonstrating strong internal validity and low risk of bias.

### **Secondary outcomes**

**Parent health outcomes.** One study indicated that VFIs may be useful in supporting maternal depression. Mendelsohn et al. (2011) found that depression scores were lower in mothers who received VIP, as

compared with those who received the alternative intervention (BB). Whilst both interventions were associated with a reduction in mild depressive symptoms, only VIP was associated with a reduction in symptoms for those who were moderately depressed. These associations were partially mediated by increased maternal responsiveness in the VIP condition only. However, a further study found no significant intervention effects on mental health outcomes; Stein et al. (2006) found no difference between VFI and supportive counselling on eating disorder psychopathology or depression. No between-group differences were observed on maternal perceptions of help with their eating disorder, practical help, or help with self-esteem and feelings about themselves. Additionally, van Doesum et al. (2008) demonstrated significant reductions in depression symptoms in both the VFI and 'dummy' intervention control groups at post-test.

In sum, whilst one study indicates that VFIs may improve levels of depression in those with mild-to-moderate symptoms, others indicate that VFIs may not differentially impact upon mental health difficulties such as depression and eating disorders when compared with TAU or other active interventions.

## **Discussion**

VFIs have been demonstrated effective in improving parental interactions with their infants, with 9 of 11 studies reporting significant outcomes in parental sensitivity and/or responsivity. Notably, the two studies which did not report a significant intervention effect on sensitivity (Negrão et al., 2014) or responsivity (Mendelsohn et al., 2007), did note trends towards one. Improvements were seen in mothers with insecure attachment representations, those with depression or an eating disorder, those at high risk due to low income, education, or interaction difficulties, and those with children with externalising behaviour difficulties. This indicates that VFIs may improve parent-child interactions in parents presenting with a variety of difficulties. Results from three studies indicate a reciprocal improvement in

interaction, such that infant in the VFI had significantly higher levels of responsiveness, involvement, and co-operative behaviours than those in the control groups. Conversely, VFIs appeared to have no impact on increasing infant secure attachment, although only two studies examined this.

Although long-term follow up studies are lacking, there is some very preliminary evidence to indicate longer-term improvements in parental concerns regarding infant development and perhaps a delayed impact upon increased infant attachment security. Given that so few studies examined the long-term impact, generalisation of these findings is not recommended. However, the most striking long-term finding relates to the lack of enduring intervention effects on maternal sensitivity. The clinical implications of this are discussed below.

Whilst parental sensitivity and responsivity have long been cited as the key predictors in infant attachment security, it is possible that targeting these factors alone may not be sufficient to affect changes in infant attachment. Results from a meta-analysis (Van IJzendoorn, 1995) found that parental sensitivity accounted for just 23% of the variance in the relationship between maternal attachment and infant attachment. Parental reflective functioning has been considered as a possible bridge between adult and infant attachment (Fonagy et al., 1991) but although not explicitly measured in the studies examined in the present review, stimulating reflective functioning is an aim of VFIs. It is possible that VFIs do not sufficiently increase reflective functioning to affect changes in infant attachment. Alternatively, it may be that changes occur over longer periods of time and so were not captured in the short-term experimental studies discussed here. This could explain why the only significant effect on infant attachment occurred during a six-month follow up procedure.

With regards to the secondary aim of examining parental health outcomes (given that such outcomes may influence potential commissioning of VFIs in adult services), findings indicate minimal or no differences between groups in reducing depressive or eating disorder symptomatology. Only one of the

three studies reported a significant outcome (Mendelsohn et al. (2011). Mendelsohn et al. (2011) found a reduction in depressive symptomatology in those who were moderately depressed, in the VFI intervention group only. This suggests a specificity of intervention, such that it is effective only for those outcomes (e.g. parent-infant interactions) that the intervention targets, and supports Fukkink (2008), who suggested that VFIs may not be specifically tailored enough to address significant parental difficulties such as maternal depression. Nevertheless, parents with mental health problems may be a population particularly suited to receiving VFI, as these difficulties are often characterised by a narrowing of focus towards internal stimuli (Ingram, 1990). This may result in an impaired ability to respond appropriately to the external environment – a key focus of VFIs. Targeting this impairment could in turn reduce the impact of parental mental health on the developing infant – as demonstrated by Van Doesum and colleagues (2008), who found significant reciprocal improvements in parent-infant interactions in dyads in which the parent had depression (Van Doesum et al., 2008). However, further research is needed in order to test this assertion. What is more, this population may find it difficult to identify changes in themselves and as such, it would be important to ensure that objective measures of change are employed

**Strengths and limitations of this review.** This review presents an up-to-date analysis of the effects of VFIs on parent-infant interactions and outcomes in the context of parental risk factors alone, rather than integrating infant risk factors. As there are likely differences in the characteristics and responses of these two populations, maintaining a focus on parental risk factors improves validity and generalisability of findings to other parents who may be at risk of displaying less positive parenting practices. Additionally, long-term outcomes and study quality are examined in more detail than previous reviews, enabling findings to be critically appraised and clinical implications to be better considered.

Although the search process was conducted in a comprehensive, structured, and systematic manner, resource constraints meant this was carried out by

one researcher only. This introduces the potential for studies to have been missed or for studies to have been excluded that may actually have been eligible for inclusion. Furthermore, as discussed previously, quality assessment was carried out by the main researcher, who was not blind to the publication details of each study. Again, a second, independent, reviewer did not rate the studies, indicating a further threat to the validity of the quality assessment procedure, which is by nature subjective and open to the possibility of bias. According to the guidelines of Wright, Brand, Dunn, and Spindler (2007), a minimum of two reviewers is necessary during both the selection and quality appraisal stages in order to minimise the introduction of bias. A further limitation of the quality assessment tool used relates to the 'Study Design' section of the tool. According to this, studies described as RCTs but which do not state the method of randomisation must be rated as a 'controlled clinical trial', rather than an RCT. What is more, controlled clinical trials are assigned the same 'strong' rating as RCTs. As the present review only includes RCTs, the quality assessment is not confounded in the way that it would be if non-RCTs were also reviewed.

Given that studies in the present review were excluded if they not been subject to the peer-review process or were an unpublished thesis or conference abstract, in addition to those that were non-randomised, single, or small N case study designs, this introduces the potential for publication bias. Certainly, Easterbrook, Gopalan, Berlin, and Matthews (1991) did not find a significant difference in the quality of published and unpublished studies, indicating that perhaps original concerns about the methodological rigour of unpublished studies were unfounded. Furthermore, studies were also excluded if they were not available in English. It has been argued that studies are more likely to be reported in English if they report positive results (Egger et al., 1997), thereby introducing a further source of bias. In light of the above limitations, findings from the present review should be interpreted with some caution.

**Implications for clinical practice.** Upon consideration of the present findings, it could be posited that video-feedbacks may prove effective in



improving short-term parent-child interactions across a variety of parental risk characteristics, including those parents with a mental health problem. Certainly, the research demonstrates improvements following a relatively short number of sessions (in line with the Bakermans-Kranenburg et al. (2003) 'less is more' and Fukkink (2008) 'short but powerful' hypotheses), suggesting that VFIs may offer a cost-effective treatment option for services. However, services need to be mindful of the as yet limited data regarding the long-term effectiveness of VFIs. Whilst it could therefore be argued that VFIs are not yet evidence-based for use in clinical populations, it may be that including further 'booster' sessions, perhaps with the support of fathers, could improve long-term outcomes. However, this assertion is not yet empirically supported. Nevertheless, the present findings add support to those of Bakermans-Kranenburg et al. (2003) and indicate a potential preventative role for VFI. That is, in light of the evidence that VFIs increase parental sensitivity, a factor argued as the most important predictor of infant attachment (Ainsworth et al., 2014), VFIs could be implemented to effectively reduce the negative impact of such experiences upon a child.

Furthermore, it may be that some characteristics are best suited to particular interventions; for example, although the evidence is preliminary, mothers classified secure may not benefit from VFIs, whilst mothers classified as dismissing may most benefit from VIPP and mothers classified as preoccupied may most benefit from VIPP-R. This may lend support to a need to tailor VFIs to each dyad, taking into account the dyad's presenting characteristics.

**Implications for future research.** The findings from this review highlight three key areas for future research. First, only four of the 11 studies included in the present review reported on the long-term outcomes of VFIs, indicating that both the favourable (e.g. reduced parenting distress and concerns about infant development, and increased parental involvement) and unfavourable (e.g. no enduring effects on maternal sensitivity) outcomes reported must be considered preliminary. Further research is needed in order

to be able to determine with more confidence the long-term effectiveness (and relatedly, clinical usefulness) of VFIs.

Second, as discussed previously, many of the studies utilised an adjunctive treatment component, some as standard (e.g. cognitive-behaviour therapy for eating disorders; supplementary discussions focusing on maternal mental representations of attachment) and some implemented more flexibly (e.g. baby massage; modelling). Whilst Bakermans-Kranenburg et al. (1998) did examine the extent to which VIPP with additional discussions about maternal representations of attachment (VIPP-R) differed in outcomes from standard VIPP, as yet, no specific component analysis studies have been undertaken. Component analyses are fundamental in order to determine the extent to which VFIs alone are effective and to consider which adjunctive components may be necessary, perhaps indeed for specific populations of parent-infant dyads with specific needs.

Finally, fathers were significantly under-represented in the studies included in the present review. Of the seventeen studies, fathers were invited to participate in all sessions of just one study (23 took part, but data was only collected for 2), and in the 'booster' sessions only in a further three studies (participation ranged from 5-31%). Research into the effectiveness of VFIs with fathers is emerging, with positive outcomes on paternal sensitivity (Magill-Evans, Harrison, Benzies, Gierl, & Kimak, 2007) and preliminary improvements in father-infant interaction (Benzies, Magill-Evans, Harrison, MacPhail, and Kimak, 2008; Benzies et al., 2013; Benzies and Magill-Evans, 2015) reported. However, fathers in these studies were not recruited from clinical populations; that is, they were selected due to being a first-time father. As such, not only is there a dearth of empirical literature regarding the effectiveness of VFIs aimed at improving father-infant interactions, but this is even more marked with regards to fathers whose ability to parent sensitively may be compromised (e.g. by possessing one or more characteristics associated with less positive parenting practices). Certainly, impairments in parent-infant interaction are found in fathers with depression in the postnatal period (Sethna, Murray, & Ramchandani, 2012); this

indicates a potential role for VFIs in this population. Future research in this field is necessary to determine whether this is the case.

## **Conclusion**

In summary, findings regarding the effects of VFIs are mixed. Studies have demonstrated short-term efficacy in improving parental-infant interactions, particularly with regards to maternal sensitivity. However, long-term research (although very limited) provides less favourable outcomes, with gains in maternal sensitivity lost at follow-up. Nevertheless, VFIs may offer a cost-effective treatment option for services as they improve short-term parental sensitivity and parent-child interactions across a variety of parental risk characteristics in a relatively short number of sessions. Future research should concentrate on long-term outcomes and component analyses, in addition to the effects of VFI on fathers.

## References

- Adam, E. K., Gunnar, M. R., & Tanaka, A. (2004). Adult attachment, parent emotion, and observed parenting behavior: Mediator and moderator models. *Child Dev*, 75(1), 110-122.
- Ainsworth, M. D. S., Bell, S. M., & Stayton, D. J. (1974). Infant-mother attachment and social development: 'Socialisation' as a product of reciprocal responsiveness to signals. In M. P. M. Richards (Ed.), *The Integration of a Child into a Social World* (pp. 99-135). London: Cambridge University Press.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (2014). *Patterns of attachment: A psychological study of the strange situation*: Psychology Press.
- Allen, G. (2011). *Early Intervention, The Next Steps: An Independent Report to Her Majesty's Government*. The Stationery Office.
- Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2003). Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*, 129(2), 195.
- Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., Pijlman, F. T., Mesman, J., & Juffer, F. (2008). Experimental evidence for differential susceptibility: dopamine D4 receptor polymorphism (DRD4 VNTR) moderates intervention effects on toddlers' externalizing behavior in a randomized controlled trial. *Developmental Psychology*, 44(1), 293.
- Bakermans-Kranenburg, M. J., Juffer, F., & Van IJzendoorn, M. H. (1998). Interventions with video feedback and attachment discussions: Does type of maternal insecurity make a difference? *Infant Mental Health Journal*, 19(2), 202-219.
- Benzies, K. M., & Magill-Evans, J. (2015). Through the eyes of a new dad: experiences of first-time fathers of late-preterm infants. *Infant Ment Health J*, 36(1), 78-87. doi:10.1002/imhj.21489
- Benzies, K. M., Magill-Evans, J., Harrison, M. J., MacPhail, S., & Kimak, C. (2008). Strengthening new fathers' skills in interaction with their 5-month-old infants: who benefits from a brief intervention? *Public Health Nurs*, 25(5), 431-439. doi:10.1111/j.1525-1446.2008.00727.x

- Benzies, K. M., Magill-Evans, J., Kurilova, J., Nettel-Aguirre, A., Blahitka, L., & Lacaze-Masmonteil, T. (2013). Effects of video-modeling on the interaction skills of first-time fathers of late preterm infants. US: Lippincott Williams & Wilkins.
- Berkule, S. B., Cates, C. B., Dreyer, B. P., Huberman, H. S., Arevalo, J., Burtchen, N., . . . Mendelsohn, A. L. (2014). Reducing maternal depressive symptoms through promotion of parenting in pediatric primary care. *Clin Pediatr (Phila)*, 53(5), 460-469. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-84898990286&partnerID=40&md5=2f632a7a22e24bcedf7dd6cb4e414403>
- Biringen, Z., Robinson, J., & Emde, R. (1998). Manual for scoring the emotional availability scales. *Unpublished manuscript*.
- Broth, M. R., Goodman, S. H., Hall, C., & Raynor, L. C. (2004). Depressed and well mothers' emotion interpretation accuracy and the quality of mother—infant interaction. *Infancy*, 6(1), 37-55.
- Crittenden, P. M. (2003). CARE-Index manual. *Family Relations Institute, Miami*.
- Deeks, J. J., Dinnes, J., D'amico, R., Sowden, A., Sakarovitch, C., Song, F., . . . Altman, D. (2003). Evaluating non-randomised intervention studies. *Health technology assessment*, 7(27), 1-179.
- Dexter, C. A., Wong, K., Stacks, A. M., Beeghly, M., & Barnett, D. (2013). Parenting and attachment among low-income African American and Caucasian preschoolers. *Journal of Family Psychology*, 27(4), 629.
- Diener, M., Nievar, M. A., & Wright, C. (2003). Attachment security between disadvantaged young children and their mothers: Associations with maternal, child and contextual characteristics. *Merrill Palmer Quarterly*, 49, 154-182.
- Easterbrooks, M., & Biringen, Z. (2000). Guest editors' introduction to the special issue: Mapping the terrain of emotional availability and attachment. *Attachment & Human Development*, 2(2), 123-129.
- Easterbrook, P. J., Gopalan, R., Berlin, J., & Matthews, D. R. (1991). Publication bias in clinical research. *The Lancet*, 337(8746), 867-872.

- Egger, M., Zellweger-Zähner, T., Schneider, M., Junker, C., Lengeler, C., & Antes, G. (1997). Language bias in randomised controlled trials published in English and German. *The Lancet*, 350(9074), 326-329.
- EPHPP. (2007). *Quality Assessment Tool for Quantitative Studies*. Retrieved from <http://www.ephpp.ca/tools.html>
- Essex, M. J., Klein, M. H., Cho, E., & Kalin, N. H. (2002). Maternal stress beginning in infancy may sensitize children to later stress exposure: effects on cortisol and behavior. *Biological psychiatry*, 52(8), 776-784.
- Fukkink, R. G. (2008). Video feedback in widescreen: A meta-analysis of family programs. *Clinical Psychology Review*, 28(6), 904-916. doi:10.1016/j.cpr.2008.01.003
- Goldberg, S. (2014). *Attachment and development*. Routledge.
- Gutman, L., Brown, J. F., & Akerman, R. (2009). Nurturing parenting capability: the early years [Wider Benefits of Learning Research Report No. 30].
- Guttentag, C. L., Pedrosa-Josic, C., Landry, S. H., Smith, K. E., & Swank, P. R. (2006). Individual variability in parenting profiles and predictors of change: Effects of an intervention with disadvantaged mothers. *Journal of Applied Developmental Psychology*, 27(4), 349-369. doi:10.1016/j.appdev.2006.04.005
- Higgins, J. P., & Green, S. (2008). *Cochrane handbook for systematic reviews of interventions* (Vol. 5): Wiley Online Library.
- Høivik, M. S., Lydersen, S., Drugli, M. B., Onsøien, R., Hansen, M. B., & Nielsen, T. S. B. (2015). Video feedback compared to treatment as usual in families with parent-child interactions problems: A randomized controlled trial. *Child and Adolescent Psychiatry and Mental Health*, 9(1). doi:10.1186/s13034-015-0036-9
- Howes, C., & Wishard Guerra, A. G. (2009). Networks of Attachment Relationships in Low-income Children of Mexican Heritage: Infancy through Preschool. *Social Development*, 18(4), 896-914.
- Ingram, R. E. (1990). Self-focused attention in clinical disorders: Review and a conceptual model. *Psychological Bulletin*, 107(2), 156.

- Janssens, J. M. A. M., & Kemper, A. A. M. (1996). Effects of video hometraining on parental communication and a child's behavioral problems. *International Journal*, 2, 137-148.
- Juffer, F., Bakermans-Kranenburg, M., & Van IJzendoorn, M. (2008). Introduction and outline of the VIPP and VIPP-R program. *Promoting positive parenting: An attachment-based intervention*. Mahwah, NJ: Erlbaum.
- Kalinauskiene, L., Cekuoliene, D., van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Juffer, F., & Kusakovskaja, I. (2009). Supporting insensitive mothers: The Vilnius randomized control trial of video-feedback intervention to promote maternal sensitivity and infant attachment security. *Child Care Health and Development*, 35(5), 613-623. doi:10.1111/j.1365-2214.2009.00962.x
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall.
- Kotchick, B. A., & Forehand, R. (2002). Putting parenting in perspective: A discussion of the contextual factors that shape parenting practices. *Journal of Child and Family Studies*, 11(3), 255-269.
- Landry, S. H., Smith, K. E., & Swank, P. R. (2006). Responsive parenting: Establishing early foundations for social, communication, and independent problem-solving skills. *Developmental Psychology*, 42(4), 627-642. doi:10.1037/0012-1649.42.4.627
- Landry, S. H., Smith, K. E., Swank, P. R., & Guttentag, C. (2008). A responsive parenting intervention: The optimal timing across early childhood for impacting maternal behaviors and child outcomes. *Developmental Psychology*, 44(5), 1335-1353. doi:10.1037/a0013030
- Little, C., & Carter, A. S. (2005). Negative emotional reactivity and regulation in 12-month-olds following emotional challenge: Contributions of maternal–infant emotional availability in a low-income sample. *Infant Mental Health Journal*, 26(4), 354-368.
- Magill-Evans, J., Harrison, M. J., Benzies, K., Gierl, M., & Kimak, C. (2007). Effects of parenting education on first-time fathers' skills in interactions with their infants. *Fathering*, 5(1), 42-57. doi:10.3149/fth.0501.42

- Mendelsohn, A. L., Dreyer, B. P., Flynn, V., Tomopoulos, S., Rovira, I., Tineo, W., . . . Nixon, A. F. (2005). Use of videotaped interactions during pediatric well-child care to promote child development: A randomized, controlled trial. *Journal of Developmental and Behavioral Pediatrics*, 26(1), 34-41. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-20144387933&partnerID=40&md5=a6b8ee0f1596ec447e47bcce09c67440>
- Mendelsohn, A. L., Huberman, H. S., Berkule, S. B., Brockmeyer, C. A., Morrow, L. M., & Dreyer, B. P. (2011). Primary care strategies for promoting parent-child interactions and school readiness in at-risk families: The Bellevue Project for Early Language, Literacy, and Education Success. *Archives of Pediatrics and Adolescent Medicine*, 165(1), 33-41. doi:10.1001/archpediatrics.2010.254
- Mendelsohn, A. L., Valdez, P. T., Flynn, V., Foley, G. M., Berkule, S. B., Tomopoulos, S., . . . Dreyer, B. P. (2007). Use of videotaped interactions during pediatric well-child care: Impact at 33 months on parenting and on child development. *Journal of Developmental and Behavioral Pediatrics*, 28(3), 206-212. doi:10.1097/DBP.0b013e3180324d87
- Mensah, F. K., & Kiernan, K. E. (2010). Parents' mental health and children's cognitive and social development. *Social psychiatry and psychiatric epidemiology*, 45(11), 1023-1035.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of internal medicine*, 151(4), 264-269.
- Moullin, S., Waldfogel, J., & Washbrook, E. (2014). Baby Bonds: Parenting, Attachment and a Secure Base for Children. *Sutton Trust*.
- Negrão, M., Pereira, M., Soares, I., & Mesman, J. (2014). Enhancing positive parent-child interactions and family functioning in a poverty sample: A randomized control trial. *Attachment and Human Development*, 16(4), 315-328. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0->



[84903551822&partnerID=40&md5=b11e9449a0ad33b5647deb8033e46267](https://doi.org/10.1111/j.1467-8624.1998.tb06165.x)

- NICHD Early Child Care Research Network. (1998). Early Child Care and Self-Control, Compliance, and Problem Behavior at Twenty-Four and Thirty-Six Months. *Child Dev*, 69(4), 1145-1170. doi:10.1111/j.1467-8624.1998.tb06165.x
- NICE. (2013). *Antisocial behaviour and conduct disorders in children and young people: Recognition and management*. Retrieved from <https://www.nice.org.uk/guidance/cg158/resources/antisocial-behaviour-and-conduct-disorders-in-children-and-young-people-recognition-and-management-35109638019781>
- Pereira, M., Negrao, M., Soares, I., & Mesman, J. (2014). Decreasing harsh discipline in mothers at risk for maltreatment: A randomized control trial. *Infant Mental Health Journal*, 35(6), 604-613. doi:10.1002/imhj.21464
- Poslawsky, I. E., Naber, F. B., Bakermans-Kranenburg, M. J., van Daalen, E., van Engeland, H., & van IJzendoorn, M. H. (2014). Video-feedback Intervention to promote Positive Parenting adapted to Autism (VIPP-AUTI): a randomized controlled trial. *Autism*, 1362361314537124.
- Sethna, V., Murray, L., & Ramchandani, P. (2012). Depressed fathers' speech to their 3-month-old infants: a study of cognitive and mentalizing features in paternal speech. *Psychological medicine*, 42(11), 2361-2371.
- Slade, A. (2005). Parental reflective functioning: An introduction. *Attachment & human development*, 7(3), 269-281.
- Smith, K. E., Landry, S. H., & Swank, P. R. (2005). The influence of decreased parental resources on the efficacy of a responsive parenting intervention. *Journal of Consulting and Clinical Psychology*, 73(4), 711-720. doi:10.1037/0022-006x.73.4.711
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367.
- Steele, H., & Steele, M. (Eds.). (2008). *Clinical applications of the adult attachment interview*. Guilford Press.

- Steele, M., Steele, H., Bate, J., Knafo, H., Kinsey, M., Bonuck, K., . . .  
Murphy, A. (2014). Looking from the outside in: the use of video in attachment-based interventions. *Attachment & Human Development*, 16(4), 402-415. doi:10.1080/14616734.2014.912491
- Stein, A., Woolley, H., Senior, R., Hertzmann, L., Lovel, M., Lee, J., . . .  
Fairburn, C. G. (2006). Treating disturbances in the relationship between mothers with bulimic eating disorders and their infants: A randomized, controlled trial of video feedback. *American Journal of Psychiatry*, 163(5), 899-906. doi:10.1176/appi.ajp.163.5.899
- Stern, C., Jordan, Z., & McArthur, A. (2014). Developing the Review Question and Inclusion Criteria. *AJN The American Journal of Nursing*, 114(4), 53-56.
- Stolk, M. N., Mesman, J., van Zeijl, J., Alink, L. R. A., Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H., . . . Koot, H. M. (2008). Early parenting intervention aimed at maternal sensitivity and discipline: A process evaluation. *Journal of Community Psychology*, 36(6), 780-797. doi:10.1002/jcop.20280
- Stormshak, E. A., Bierman, K. L., McMahon, R. J., & Lengua, L. J. (2000). Parenting practices and child disruptive behavior problems in early elementary school. *J Clin Child Psychol*, 29(1), 17-29.
- Thompson, R. A. (1999). Early attachment and later development. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Implications* (pp. 265-286). New York, USA: The Guilford Press.
- van Doesum, K. T., Riksen-Walraven, J. M., Hosman, C. M., & Hoefnagels, C. (2008). A randomized controlled trial of a home-visiting intervention aimed at preventing relationship problems in depressed mothers and their infants. *Child Dev*, 79(3), 547-561. doi:10.1111/j.1467-8624.2008.01142.x
- Van Zeijl, J., Mesman, J., Van Ijzendoorn, M. H., Bakermans-Kranenburg, M. J., Juffer, F., Stolk, M. N., . . . Alink, L. R. A. (2006). Attachment-based intervention for enhancing sensitive discipline in mothers of 1- to 3-year-old children at risk for externalizing behavior problems: A randomized controlled trial. *Journal of Consulting and Clinical*

*Psychology*, 74(6), 994-1005. Retrieved from  
<http://www.scopus.com/inward/record.url?eid=2-s2.0-33845659151&partnerID=40&md5=3dbe897ba1d63d564ab165b8875d6ff8>

- Velderman, M. K., Bakermans-Kranenburg, M. J., Juffer, F., & Van Ijzendoorn, M. H. (2006a). Effects of attachment-based interventions on maternal sensitivity and infant attachment: Differential susceptibility of highly reactive infants. *Journal of Family Psychology*, 20(2), 266-274. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-33745804950&partnerID=40&md5=b65a4795fed05e68e49b4125f2c10b6f>
- Velderman, M. K., Bakermans-Kranenburg, M. J., Juffer, F., Van Ijzendoorn, M. H., Mangelsdorf, S. C., & Zevalkink, J. (2006b). Preventing preschool externalizing behavior problems through video-feedback intervention in infancy. *Infant Mental Health Journal*, 27(5), 466-493. doi:10.1002/imhj.20104
- Wan, M. W., Salmon, M. P., Riordan, D. M., Appleby, L., Webb, R., & Abel, K. M. (2007). What predicts poor mother–infant interaction in schizophrenia? *Psychological medicine*, 37(04), 537-546.
- Washbrook, E. (2010). Early environments and child outcomes: an analysis commission for the Independent Review on Poverty and Life Chances. *Centre for Market and Public Organization, University of Bristol*.
- Woodhead, J., Bland, K., & Baradon, T. (2006). Focusing the lens: The use of digital video in the practice and evaluation of parent–infant psychotherapy. *Infant Observation*, 9(2), 139-150.
- Wright, R. W., Brand, R. A., Dunn, W., & Spindler, K. P. (2007). How to write a systematic review. *Clinical orthopaedics and related research*, 455, 23-29.
- Yagmur, S., Mesman, J., Malda, M., Bakermans-Kranenburg, M. J., & Ekmekci, H. (2014). Video-feedback intervention increases sensitive parenting in ethnic minority mothers: A randomized control trial.

*Attachment and Human Development*, 16(4), 371-386.

doi:10.1080/14616734.2014.912489

Yeung, W. J., Linver, M. R., & Brooks–Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. *Child development*, 73(6), 1861-1879.

Increasing access to emotional coping skills training in an acute inpatient setting: Exploring feasibility and barriers to implementation.

Laura Brown (laura.brown2@bath.ac.uk)

Field Supervisor: Dr Paul Bibby (paul.bibby@glos.nhs.uk)  
Internal Supervisor: Maria Loades (m.e.loades@bath.ac.uk)

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## Introduction

Acute inpatient care is a core part of the National Service Framework for Mental Health (Department of Health (DoH), 1999) and many guidelines and policies emphasise the importance of access to psychological interventions (e.g. No Health Without Mental Health, HM Government, 2011); Talking Therapies: A Four-year Plan of Action, (DoH, 2011). However, despite being designated a priority by the DoH, Acute Care 2004: A National Survey of Adult Psychiatric Wards in England found that psychosocial interventions were routinely available on only 35% of wards surveyed, and cognitive behavioural therapy (CBT) was routinely available in less than 20% (Garcia, Kennett, Quraishi, & Durcan, 2005). The 'We need to talk coalition' call this a "worrying lack of psychological therapy provision" for those with severe mental health problems, particularly those on inpatient wards (We Need to Talk Coalition, 2010, p. 19). This scarcity of psychological provision is likely due to limited staff resources (such as inadequate psychologist to inpatient ratios), which mean that evidence-based interventions cannot be widely implemented. However, the dominance of the medical model, a focus on managing challenging behaviour and those most at risk, in addition to a pressure on 'throughput' in mental health inpatient hospitals has long meant an emphasis on medication rather than psychological intervention (Schizophrenia Commission, 2012).

Furthermore, it is sometimes assumed that acutely unwell people cannot effectively make use of psychological interventions. Certainly, the structure of NICE recommended therapies such as formal CBT may not be appropriate for someone presenting in crisis who may lack insight into their difficulties or who is not motivated or able to engage in a contracted number of sessions or practice 'homework' tasks. Such interventions are not even always very well suited to acute environments, given that lengths of stay are unpredictable and patient difficulties are often multiple and highly complex. However, this does not preclude acute inpatient hospitals from prioritising a therapeutic environment, in which ward staff work using psychologically-informed principles. Certainly, providing treatment is deemed a key role of inpatient

mental health nurses (Bowers, 2005), yet it could be argued that there is often a focus on medication adherence interventions, at the expense of simple psychosocial ones (Mullen, 2009).

There needs to be a move away from the traditional medical model of care, with adjunctive individual psychotherapy, towards a model which emphasises a psychologically-informed environment throughout acute inpatient hospitals. Group work and guided self-help are two ways in which evidence-based therapies can be delivered in a form that is feasible in this context. Research has shown that DBT and mindfulness groups can be effective in acute inpatient settings (Kröger et al., 2006; York, 2007). However, such groups generally require patients to have unescorted leave or ward staff to have the availability to escort them; limiting patient uptake. Additionally, groups emphasise the need for between-session practice (Didonna, 2009) which can be difficult without support on the ward.

More resource-effective modes of service delivery have been recommended, including training acute inpatient nurses to deliver talking therapies (Schizophrenia Commission, 2012). Inpatient mental health nurses are arguably best placed to provide such interventions, given the close daily involvement they have with patients. New Ways of Working for Applied Psychologists in Health and Social Care (NWW) proposes that, “all acute inpatients should have some form of access to psychological therapies and interventions provided by a qualified practitioner who may or may not be a clinical psychologist” (Onyett, 2007, p. 58). It also states that ward staff are able to, and should, be trained and supervised by clinical psychologists to deliver basic psychological interventions, facilitating staff skills development and ensuring efficient use of scarce psychology resources.

Although service users would like access to psychological therapies during crisis (Kerfoot, Bamford, & Amelia Jones, 2012), evaluating the effectiveness of these therapies in such an environment remains a significant challenge. That is, not only are co-morbid diagnoses and multiple active interventions (e.g. medication, occupational therapy, nursing support) common in this

population, preventing a controlled and homogeneous sample from being obtained (a significant barrier to randomised control trials; Kerfoot et al., 2012), but heightened levels of distress may render self-report measures too demanding for patients to complete (Durrant, Clarke, Tolland, & Wilson, 2007). It is therefore important to explore change across multiple levels (McGowan & Hall, 2009); these may include outcomes from both patient and staff perspectives.

### **Service Context**

The acute adult mental health hospital provides inpatient services for one county in South West England and comprises four acute admission wards, an intensive care unit, and a low secure unit. The ward participating in the study is a 15-bed acute admission ward for female service users with a variety of diagnoses, including depression, bipolar disorder and borderline personality disorder. Patients are predominantly admitted due to risk, for example risk of suicide; many are admitted involuntarily under Mental Health Act section. Patients can remain on the ward for anything from several days to two years; the average length of stay is 29 days.

Whilst patients receive emotional support from staff on the ward, there is currently little in the way of formal emotional coping skills support. Mental wellbeing and art psychotherapy groups take place away from the ward environment and thus require patients to have the correct leave, or to be escorted. Other than this, a referral to the psychological therapies department is needed in order for a patient to receive individual psychological work.

Therefore, the hospital psychological therapies department wanted to develop a resource that would increase patient access to psychological support in line with the NWW report (Onyett, 2007), whilst maintaining feasibility within the contextual limitations outlined above. Hence, they



commissioned the present service improvement study, namely the development and evaluation of a hospital guided self-help resource.

## **Aims**

The original aims of the study were as follows:

- To develop a guided self-help resource including emotion regulation and distress tolerance skills (Stage 1).
- To explore the acceptability and feasibility of using a guided self-help resource on one ward of an acute adult mental health hospital to increase emotion regulation and build emotional coping skills. (Stages 2 and 3).
- To provide recommendations on whether guided self-help is a useful way to equip all patients on the hospital's admission wards with helpful coping strategies to aid long-term recovery, and if so, how it might best be implemented (Stages 2 and 3).

However, due to difficulties in data collection (explained in the Stage 2. 'Results' section below), a further aim was to explore staff perceptions of introducing the resource and supplementary reflective practice/supervision sessions on the ward, with a particular focus on the barriers to implementing psychological research and therapy in an acute mental health inpatient setting (Stage 3).

## **Ethical approval**

Full ethical approval for this study was gained from the University of Bath Psychology Department Ethics Committee (reference 14-199) and the Research Support Service of the NHS Trust responsible for the hospital (reference 14/029/2gt).

## **Stage 1. Development of a guided self-help resource**

Consultation with the hospital clinical psychologist indicated that patients are predominantly admitted due to an increase in risk and as such a guided self-help resource focusing on emotional coping skills may be most beneficial for patients. Findings from existing research in inpatient units suggest that therapies such as DBT for patients with borderline personality disorder are effective in reducing suicidal ideation, self-harming behaviours, and symptoms of anxiety and depression, even at follow-up (Bloom, Woodward, Susmaras, & Pantalone, 2012).

The resource (see Appendix 1) was developed by the lead researcher and contained emotion regulation and distress tolerance skills predominantly adapted from CBT and DBT (Linehan, 1993a). It contained seven key skills, including: reducing vulnerability to negative emotions by attending to general wellbeing (i.e. sleep routine, balanced diet, exercise), increasing positive emotions through learning to notice positive experiences and increasing their occurrence, changing emotions through acting opposite to the present emotion and crisis survival strategies of distraction and self-soothing. These skills drew heavily on Linehan's (1993b) 'Skills training manual for treating borderline personality disorder'. Additional skills were a safe place imagery script (adapted from Vivyan (2009)) and mindfulness (including bringing mindfulness into everyday life; Kabat-Zinn, 1994). The resource was a mixture of written information, scripts to follow, and worksheets to fill out.

## **Stage 2. Implementation and initial data collection**

### **Method.**

**Design.** This stage of the study aimed to employ a mixed-methods quasi-experimental 'AB' design.

**Participants.** Patients from a 15-bed female ward of an acute adult mental health hospital in South West England were invited to take part in the study by their named nurse, once an MDT decision had been reached regarding capacity to consent to participate.

### **Measures.**

*The Mental Health Confidence Scale (MHCS; Carpinello, Knight, Markowitz, & Pease, 2000).* The MHCS is a 16-item self-report questionnaire designed to measure self-efficacy beliefs (three dimensions: optimism, coping, and advocacy) of someone dealing with a mental health problem. It has been found to have high construct validity and is demonstrated to be a reliable measure of mental health related self-efficacy beliefs ( $\alpha = .94$ ; Carpinello et al., 2000). It was requested that ward staff support patients to complete this measure prior to receiving the resource, and again at discharge.

*Discharge Questionnaire:* This is a mixed-methods questionnaire designed specifically for the present study. It aimed to measure how much patients used the resource, what they found helpful and not so helpful about it, and what might be improved. See Appendix 2.

**Procedure.** Seventeen members of staff were provided with training on the resource (e.g. rationale for its development, evidence-base for the techniques, and information on how and when they might be used). It was agreed with the ward manager that further cascade training would take place between members of the ward staff. However, due to staff time pressures, this did not take place.

Staff provided patients with an Information Sheet outlining the aims of the study and what participation would involve, and provided written consent to participate (see Appendix 3). It was made clear to patients that their participation was completely voluntary and that their care would not be affected in any way if they chose not to take part or later chose to withdraw from the study. For those patients who declined to take part, they were nevertheless offered a copy of the resource (it was felt unethical to deny patients a resource that others on the ward had access to).

**Results.** Administration of the MCHS to patients upon admission to the ward was inconsistent, such that of the approximately 170 patients admitted to the ward during the almost 12 month trial period, only 8 completed the MCHS (it is of note that not all 170 patients were offered to participate in the trial, in part due to concerns regarding suitability and in part due to staff barriers. Others declined to take part). Administration of measures upon discharge was again problematic, such that only one set was successfully completed. As a result of the significantly limited number of patient-completed measures, these will not be analysed.

**Discussion.** As a result of the difficulties in implementation and data collection highlighted above, it was considered important to explore staff perceptions of feasibility and acceptability of using a guided self-help resource and to gain a better understanding of what the barriers to implementation were.

### **Stage 3. Exploring feasibility, acceptability, and the barriers to implementation**

#### **Method.**

**Design.** Qualitative interviews were completed with staff to examine what went well in terms of implementing the resource and what the barriers were. A related aspect of the study is the reflective practice/supervision sessions. These were planned to be run by the hospital clinical psychologist on a fortnightly basis. All ward staff were invited to attend but participation was optional. The sessions were designed to support staff in their work with patients on the ward, particularly in light of the trial. Unfortunately, unforeseen circumstances meant that the reflective practice sessions were held on a less frequent basis (estimated at one every two to three months). During the qualitative interviews, staff were also asked to comment on their experiences of the reflective practice sessions.

**Participants.** Purposive sampling was employed to recruit eight participants to take part in the qualitative interviews (six female; two male). Ward staff were selected to participate if they had received the initial resource introduction and training, regardless of whether they had used the resource with any patients.

**Measures.** A semi-structured interview schedule was developed (see Appendix 4). It consisted of one closed-question and six open-questions (with additional prompts), based on the research aims. The schedule aimed to gather information about staff experiences of taking part in the study and to explore barriers to implementation.

**Procedure.** The interview schedule was administered with ward staff at the end of the trial period (see Appendix 5 for staff Information Sheet and Consent Form). Interviews took place over two days, in order to capture views from as many staff as possible (taking staff shift patterns into account); eight members of staff took part. It was considered that data saturation had been reached by this point.

**Methodological rationale.** In line with the research aims, a qualitative approach was chosen in order to obtain a rich understanding of staff experiences and perceptions of barriers to the implementation of psychological support and research. An interview methodology was chosen as it was felt that this would better enable staff to be open and honest. Additionally, focus groups would not be practicable in a busy ward environment. Thematic analysis was chosen to analyse the data from the interviews (and completed according to the Braun and Clarke (2006) guidelines) as it is theoretically-flexible and enables patterns in meaning to be identified that are related (but not restricted to) the aims of the present research.

## **Data analysis**

**The researcher's perspective.** The main researcher has previously spent six months on placement at the hospital, working within the psychology department. This may have resulted in some bias towards the role of psychology and psychological provision within the hospital. Nevertheless, the researcher aimed to keep an unbiased perspective during analysis; two further raters with no experience of working in an acute inpatient setting were recruited to further control for this.

**Epistemology.** As the research was not driven by an existing theoretical framework, an inductive 'bottom up' approach was taken, in which data were analysed from a realist position; that is, reporting the assumed reality of participants. Codes and themes were identified at a semantic level which looked at explicit, rather than latent meanings in the data.

**Data analysis approach.** Interviews were audio recorded, transcribed verbatim, and then checked against the original recordings for accuracy. Initial immersion in the data involved repeated active readings of each transcript, noting initial patterns. Codes (meaningful segments of data) were then manually identified by working "systematically through the entire data set, giving full and *equal* attention to each data item" (Braun & Clarke, 2006, p. 18). Codes were collated and sorted into potential themes, and attention paid to the relationship between different codes and themes. Themes were reviewed and refined, first by reading all the collated extracts for each theme to check that they form a coherent pattern, and second, by re-reading the entire data set to confirm that the themes 'fit' with the data, and to ensure that all relevant data had been coded. Two independent researchers also coded the data sets, to enable cross-referencing of themes. Whilst overall agreement between researchers was good, any differences in coding or themes were discussed until a consensus was reached. Therefore, the themes were further refined and finalised. A thematic map was developed (see Appendix 6) and an analysis of each theme was written.

## **Results**

Five main themes were identified: staff factors, patient factors, research factors, usefulness of reflective practice, and improvements. Sub-themes were also developed within these (see Table 1). Each theme is described below and illustrated with anonymised quotes from the interviews with ward staff.

Table 1. Summary of themes and sub-themes.

Theme	Sub-themes
<b>Staff factors</b>	<ol style="list-style-type: none"> <li>1. Perceptions of resource</li> <li>2. Familiarity with content</li> <li>3. Ward environment</li> <li>4. Staff absence/shift patterns</li> </ol>
<b>Patient factors</b>	<ol style="list-style-type: none"> <li>1. Familiarity with content</li> <li>2. Declined participation <ol style="list-style-type: none"> <li>i. Patient ability</li> <li>ii. Research measures</li> </ol> </li> <li>3. Patient discharge</li> </ol>
<b>Research factors</b>	<ol style="list-style-type: none"> <li>1. Support</li> </ol>
<b>Usefulness of reflective practice</b>	<ol style="list-style-type: none"> <li>1. Format of reflective practice</li> <li>2. Function of reflective practice</li> </ol>
<b>Improvements</b>	<ol style="list-style-type: none"> <li>1. Format of delivery <ol style="list-style-type: none"> <li>i. Resource</li> <li>ii. Group</li> </ol> </li> <li>2. Process of administration</li> </ol>

**Staff factors.** A range of staff factors were highlighted with regards to what influenced the acceptability and feasibility of the trial on the ward.

*Perceptions of resource.* Overall, ward staff were extremely positive about the resource itself and its impact on patients.

*P3: "I think, for me, the booklets are brilliant... And in fact some of the feedback we had from some patients was that staff aren't working with them enough on their workbook."*

*Familiarity with content.* A key factor cited by staff as aiding the feasibility of using the resource on the ward, was that staff were already familiar with the content. Staff reported using many of the techniques in their day-to-day work on the ward, and found it helpful to have a resource to support the work



they are already doing. For some, it was useful to remind them of key coping and emotion regulation skills, which they can then use more informally with patients (rather than using the resource directly with them).

*P2: "I think looking at the booklet maybe we haven't been able to sit down with them, but you think about what you could actually ask them... So maybe not offering them that booklet but sometimes taking things out of your booklet that we've sort of offered them and doing it that way."*

*P8: "I mean the sleep and the diet is part of my remit anyway...I suppose the only thing was that you, you could give this to a patient and it wasn't just me just spouting, it was, you know, that's good because I can give experiential stuff but at least they have 'oh, it's real' or 'it's it in a book'."*

*Ward environment.* The consensus of those interviewed was that the trial did not have a presence on the ward. That is to say, trial procedures were not instilled as part of general ward procedures or the ward culture. It would appear that initial motivation to be involved with the trial soon waned and the trial became forgotten about. Key reasons for the perceived failure of the trial related to the fast-paced, busy nature of the ward. Staff reported being so busy with their "core business", that they did not have the time to be involved in the trial.

*P6: "...As soon as the ward environment became busy, it was virtually impossible because the structure and the dynamics of the ward didn't allow that."*

Staff already struggle to carry out the mandatory tasks and paperwork within the necessary deadlines, and were unable to prioritise the trial or remember to offer the resource to patients, particularly given that not completing the trial paperwork does not have the same repercussions as not completing mandatory paperwork. The ward environment was reported to be one of the main barriers to implementing the trial.

*P1: "I think it's just, where we get so busy as well, and I think other things keep coming into place that we, and we've other things to do, I think it's just kind of get put back, if you know what I mean. It took a step back, so maybe people have forgotten about it."*

*P7: "Yeah well, things take priority, you've got a manic patient who's running around naked, you gonna sort them out or you gonna do a workbook? You, it, you've gotta prioritise with very limited staff."*

*P3: "This is, this is something from somewhere else, that's not my core business that's been left for me to do, in addition to all this other stuff. They already shelve it in the back. Because actually if this doesn't get done I won't get into trouble. If the safe-guarding form's not done, the risk assessment's not done, and the MSC is not up to date and the care plans aren't right I get into trouble. So their mindset is already, 'this is shelved'."*

**Staff absence/shift patterns.** A further barrier pertained to staff shift patterns, sick leave, and annual leave. These factors made it difficult for staff to keep track of the processes necessary to carry out the trial or to offer continuous support to patients. Staff reported coming back on shift or returning from leave, only to find that a patient they were working with had been discharged, and so were not able to administer the discharge questionnaires. Shift and leave patterns further impacted upon staff's ability to prioritise and remember the trial processes.

*P4: "Say if I gave somebody a workbook and I went off shift and then when I come in the next time, they could be gone. So they come and go so quick, you know it's, it's not as straight forward as I can give you this, and then I'm, going through the process you might not be on shift; you have annual leave."*

**Patient factors.** Similarly, a number of patient-related factors were cited by staff as influencing the success of the trial.

*Familiarity with content.* Staff noted that those patients who were particularly amenable to taking part in the trial were those who had experienced psychological support as useful previously. Those who had not previously experienced psychological therapy or had experienced it as unhelpful were reported as being less likely to consent to participating, due to the predicted unhelpfulness of the intervention.

*P5: "A couple of people found it useful, took it away... Other people compared it to other therapy they may have had before, CBT, different things like that. They compared it to a lot of their strategies they've already got in place."*

*P6: "You know, uh, 'I've done this before, nothing's gonna work'... 'No, no, no', it was 'I'm not doing this, I've done it before, it's all a waste of time, no'."*

*Declined participation.* Staff felt that whilst several patients simply did not wish to take part, a key barrier to participation related to the patient's current mental health status. That is, they had been admitted due to increased levels of risk or distress and perhaps found the resource and associated paperwork too overwhelming to consider. Certainly, staff felt that the research measures and information sheet were the key factors in deterring patients from taking part.

*P3: "People are coming in acutely unwell. By the time they get well enough to deal with all the paperwork, and there's a lot of paperwork involved in admission anyway, they're a week in, um, and that kind of momentum gets lost, I think, a little bit."*

Additionally, the ability of patients to consent to the research trial was cited as a barrier, such that patients may lack the capacity to understand what they are consenting to. Furthermore, the frequent experience of paranoia in patients may cause them to be suspicious regarding the reasons as to why they are being asked to sign their name.

*P7: "...You get your psychotic patients. They aren't going to sign anything, to agree to anything, they won't sign the consent to share, they certainly won't sign your book and that's the difficulty we have."*

*P1: "I don't know if they look at it and think 'oh what am I consenting to'...and when we've got people in that are quite paranoid, it doesn't always help. You know, they're going to get a bit suspicious about it I think."*

*Patient discharge.* A further patient-related factor cited by staff related to the period surrounding discharge. Patient discharge can occur quickly, and there is a large amount of discharge paperwork that patients are already required to complete before they are permitted to leave the hospital.

*P2: "I think again it's just time, um, and once people know they're going they don't really generally want to sit down and do those things."*

*P3: "I think we've been rubbish at getting feedback at point of discharge, but part of that is, there's three other discharge questionnaires at point of discharge for patients. So patients are kind of overloaded. So it's another questionnaire at the point of discharge... They want to collect their pills and go home. They don't want to fill a form in."*

**Research factors.** Factors related to conducting research were reported by staff as a primary barrier to the acceptability and feasibility of the trial, particularly with regards to the level of support they received.

*Support.* Staff found the research-related processes a key obstacle in the trial. They reported feeling unsupported in taking research consent from patients and administering questionnaires, particularly as this is additional to their core roles and responsibility. Staff did not feel that they had the capacity to take on these additional tasks and reported that it was not viable to undertake research on the ward without additional support.

*P3: "Universally people think the booklets are good. It's been really difficult because it's additional to their current work, although it could be embedded in it, but there was no additional support around it."*

*P7: "Because you sort of stand alone with it really...and you're trying to explain something you don't really understand yourself. So how are you supposed to implement something that you don't fully understand? So had we had help, maybe we would've understood it more ourselves."*

**Usefulness of reflective practice.** Staff varied in their perception of how useful the reflective practice sessions were. Both the format and function of the sessions were cited as factors influencing perceived usefulness.

*Format of reflective practice.* A common theme throughout the staff transcripts appeared to be that of uncertainty with regards to how often the reflective practice sessions were held. Some staff recalled sessions occurring weekly, others recalled half an hour once every few months, and others recalled just two sessions being offered. Whilst this may reflect the barrier of staff shift patterns, it is also possible that, given that sessions were held at the end of handover sessions, the boundaries between the two sessions may have become blurred such that the structure of reflective practice was unclear. This was certainly the consensus amongst those interviewed.

*P1: "Because he used to come in after handover or before handover, one of them...it might have been quite regularly. But then like again, everything just rolls into, so I could say regularly and he could have been coming like every couple of months."*

*P2: "I think, again they were a little bit rushed because it was like at the end of handover."*

Staff reported that more recently, the structure and frequency of sessions had been clearer, and that this improved session usefulness. The quality of facilitation was reported as important in ensuring this.

*P3: "I think it's about, if I'm honest, it's about the quality of the facilitation and an understanding about what a reflective practice group is. And...a shared expectation of the people that are going into a reflective practice group and the facilitator of that."*

*Function of reflective practice.* Many staff found the reflective practice sessions useful as they enabled them to "vent" and "let off steam". Others felt that sessions enabled them to express feelings on recent difficult events and to have these feelings normalised by others experiencing similar feelings.

*P4: "I find they're really helpful because we're all different and we all engage differently and I think by sitting down and expressing our own anxieties, it does make a big difference."*

*P5: "They are good. They allow us to vent about uh, situations on the ward which can't otherwise be um, I mean we find it quite useful because our managers come out. So it's just the nursing team um, and we find it...a great opportunity to kind of discuss what our opinions are in comparison to theirs and to feed that back and things."*

However, this was not the case for all staff, with other members finding sessions unhelpful. Reasons included sessions not providing the explicit answers or solutions they were hoping for, and sessions being dominated by certain people vocalising negative beliefs about certain diagnoses, for example.

*P3: "Delivered two sessions that were supposed to be reflective practice groups but ended up being what I don't think is a reflective practice group...What they ended up being was the two that happened on the ward, were um people just winging, not even about the book, just about people with*

*certain diagnosis shouldn't be on acute wards and the loudest person in the group just dominated it and it closed out. It wasn't even a reflective practice group full stop."*

*P7: "I only sat in a couple of sessions and it didn't really...he tends to nod a lot and 'uh huh, uh huh' but never really gives you any solutions to anything, does he really?.. 'Uh huh' - that isn't helpful."*

**Improvements.** Staff made a number of key suggestions regarding ways in which to improve the feasibility and acceptability of a resource aimed at enhancing the psychological coping skills of patients on the ward.

*Format of delivery.* Staff felt that although the content of the resource was good, it could be made more accessible to patients through the use of more colour and simplified language.

*P7: "That book isn't simple enough for some of our patients, it's quite deep in parts for some of our service users."*

*P1: "When you just see loads of writing sometimes it's a bit daunting isn't it just to read it all. So maybe colours and pictures might help some patients a bit more."*

Staff further reported that it may better embed itself in the ward culture if it was broken up into smaller, skill-specific, leaflets which could be left in communal areas and introduced/delivered in a less formal manner.

*P2: "I think maybe um, maybe a little booklet, not making it as a workbook but actually giving, um, them ideas on how to distract themselves and advice on sleeping. So maybe just a little book that they can go through, or it's actually on the ward."*

Relatedly, staff endorsed the use of the 'mindfulness colouring books' that the ward had purchased for patients. This resource enabled patients to

become absorbed in mindful distraction, with little prior introduction or time involvement from the ward staff. It also offered a ready 'solution' at times of distress, rather than the commitment to read and practice skills inherent in the coping skills resource. The resource may benefit from having a similar practical distress-tolerance focus.

*P3: "I've been quite taken about how useful and good [mindfulness colouring books] are in terms of helping people stay in the here and now...Often it's those simple things that make the big difference and I think just having these things around and people picking them up when they're bored, which often there's a lot of time on the ward, and just reading through it, rather than waiting for a nurse in their one to one to bring it to them."*

It also appeared important that the resource could be readily implemented without the need for staff to support its use (in light of key barriers relating to staff availability and priorities).

*P3: "I would start by just leaving stacks of them around the ward and let it, see if it naturally develops into people's conversations. I think, delivering something to people might be seen as, 'I have Pandora's box' and, or 'I have the, um, the answers to all your ills in this booklet'."*

A further suggestion related to the use of groups on the ward. Given previous barriers cited by staff regarding the unpredictable and busy nature of the ward environment, groups would need to be co-facilitated by a member of the psychology department. It may be that the psychologist attends a regular group to introduce the resource and makes themselves available for related questions and support. Not only would this would improve staff perceptions of support from psychology, which have to date been lacking, but it would also increase the presence of the resource on the ward in a way that would support psychological coping skills to become embedded in the culture of the ward.



*P5: "We have protected time on the ward for an hour a day; we could explain it to them as a group... So that time we could use it as an opportunity to explain, potentially as a group, I think that would be much more, time, you know, it would be more effective with our time"*

*P3: "You've got a nurse on the ward that's got to be free for an hour to deliver this group. And in an ideal world what we'd want is some kind of joint process between nursing and psychology or nursing and OT or nursing and whatever so if there's an incident on the ward, because it's an acute psychiatric ward... So that should almost be somebody that can ring-fence diary time to do that. Which is why I think that nurses staff look for psychology, they look for people to come in to do this stuff because they know that probably two thirds of the sessions that they've got planned they'll have to cancel to deal with firefighting"*

*Process of administration.* A key concept that repeatedly arose was the fact that the trial was not a mandatory part of the ward team's role – whilst there were consequences if other paperwork and procedures were not completed, there were none if the trial paperwork and procedures were not followed. Staff cited a need for the resource (and implicitly, psychology) to be prioritised.

*P1: "I mean obviously if it was something that had to be done. You know like obviously when we get admissions in, they have, there's certain paperwork that has to be, like your care-plans and everything that have to be done... I suppose if it was something with that then it would be, because it's, it like has to be done, it's a priority."*

Finally, staff repeatedly vocalised the barrier of the research procedures in implementing what they otherwise saw as a beneficial resource. Staff felt that if the research elements were eliminated, such that their only task was to introduce a psychological resource that was in many ways in line with their day-to-day conversations with patients, this would completely alter the trial into something that was feasible and acceptable for both staff and patients.

*P1: "It probably would be easier... if we just said, 'oh we've got a workbook that's got things in there to help you manage'...Rather than going, 'you need to fill out this questionnaire, you need to do this and this', maybe that's an off-putting bit for patients before they even start."*

*P7: "Implement the workbook but not all this consent and maybe it should be less official. A less official workbook that they can have a look at if they'd like to but they haven't got to consent to read it, consent to, and think, you know, all that, it's too complicated."*

## **Recommendations**

In light of the above findings, the following recommendations are made:

**Guided self-help resource.** To improve accessibility, the existing resource could be amended into several difficulty-specific (e.g. sleep) or skill-specific (e.g. mindfulness) leaflets. The inclusion of colour and images, in addition to removing lengthy paragraphs of text will further improve this. Resources should be readily available on the ward, and be feasible for patients to read and work through alone, as well as with the support of staff. Involving both staff and patients the development of these resources may further increase the likelihood of successful implementation, through enabling staff and patients to take ownership of the project (in contrast to feeling as though the project was "parachuted in" and that they were "abandoned", as reported during the interviews). However, it should be noted that whilst these recommendations may improve accessibility of the guided self-help resource, this study is unable to provide any evidence regarding the effectiveness of using guided self-help resources with this population.

The hospital psychology department should consider whether it is feasible to offer ward-based emotion regulation and coping skills groups on the wards, in conjunction with ward staff. Alternatively, consider being present on the ward at specified times such that patients (and staff) have access to informal

psychological support. This may increase the therapeutic milieu on the ward and overcome the barrier of staff feeling unsupported.

**Research and evaluation.** Should further research and evaluation take place on the ward (for example evaluating the impact of the edited self-help resources), the psychology department will need to take a lead role in processes such as taking patient consent to participate. It is possible that staff members could carry out data collection with patients, but in the context regular support from the psychology department. A process surrounding patient discharge should be discussed in advance with ward staff, in order for barriers at this stage to be negotiated. Including discharge measures as a mandatory item and storing it alongside other discharge paperwork may facilitate this. If evaluation is to become part of the hospital culture, processes must be agreed with staff, included as a priority, and comprehensively supported by the psychology department.

**Reflective practice.** In order for the reflective practice sessions to be considered more universally beneficial, an explicit discussion between the hospital psychologist and ward staff regarding the function and goals of reflective practice must take place. Whilst the group must remain flexible with regards to membership for example (due to shift patterns and ward crises), there needs to be an explicit structure, such that there is a shared understanding of group location and time, in addition to format. In order to further ensure the sessions remain reflective and do not “blur” into handover, a location off the ward should be considered.

## **Discussion**

Acute inpatient settings present a challenge for both psychological therapy and research. In the present study, a guided self-help resource was developed (original aim 1) but barriers in implementation and uptake inhibited quantitative evaluation (original aims 2 and 3). Thus, the concrete experience of attempting to implement and evaluate the resource was

reflected upon, and in order to understand it, qualitative exploration of these barriers took place with staff members. The findings are discussed with potential suggestions made for how this work could be furthered, based on the experiential learning from this study (Kolb, 1984).

The themes arising from the qualitative exploration echo those presented in NWW (Onyett, 2007), in that the ward environment (primarily staff shift patterns, unpredictable patient length of stay, and a core focus on risk and distress reduction) prevent staff from being able to effectively implement psychological intervention. The role of psychology in supporting both therapy and research was a further key factor impacting upon the success of the trial. In an environment in which ward staff roles and priorities are many, they understandably look to the 'experts' to take the lead on the tasks commonly associated with the core role of psychologists rather than their own. Such an investment by psychology should be feasible if their services are commissioned in line with the Division of Clinical Psychology (that is, "to serve at least one full day, and ideally two or two and a half days, on each ward"; Clarke, Hanna, & Valinejad, 2012, p. 2). Nevertheless, in line with NWW, psychologists should encourage a therapeutic ward environment, such that ward staff feel trained and confident in providing basic psychological intervention.

Certainly, staff unanimously endorsed the skills contained in the guided self-help resource and believed that many patients would have benefitted from it, were it offered to them in the absence of research-related procedures. Staff felt that the research-related procedures were a key barrier to implementation for both staff and patients alike. Ideally, based on Kolb's experiential learning theory (Kolb, 1984), to learn from this experience, staff would have been supported to think about the concrete experience of attempting to implement the intervention, and supported to reflect on it, and understand it, leading to the generation and implementation of action plans around what to do differently. Reflective practice groups were an attempt to support staff with this learning process, but qualitative exploration indicates

that this failed due to uncertainty regarding the frequency, format, and function of the groups.

In light of the challenges in implementing the guided self-help resource, explicit conclusions regarding the effectiveness of using such low-intensity resources in an acute inpatient population cannot be made. However, the suitability of such interventions in this population must be considered. Whilst guided self-help is recommended as a first-line intervention for a variety of disorders (e.g. depression; NICE, 2009), it is unlikely to be sufficient for those presenting to acute inpatient psychiatric settings. Such individuals experience severe and/or enduring difficulties for which specific, evidence-based, individual or group interventions are necessary.

Research indicates that group-based therapy may indeed be a superior method of implementation. Certainly, inpatient transdiagnostic compassion-focused therapy groups have demonstrated effectiveness in improving levels of depression, self-esteem, and shame (Laithwaite et al., 2009), as well as decreasing levels of distress (Heriot-Maitland et al., 2014). Groups can offer a feasible way to meet the psychological needs of patients on inpatient wards (Grandison, Pharwaha, Jefford, & Dratcu, 2009), but would require ward staff to be supported by psychology, as they are unable to prioritise such a group should other issues arise on the ward environment. Further high-intensity interventions have also demonstrated effectiveness, including DBT for people with borderline personality disorder (implemented using a variety of formats; see Bloom et al (2012) for a review). Again, psychologists would be required to lead such interventions, supported by ward staff.

Findings with regards to the reflective practice sessions were mixed; some staff members found them helpful, whilst others did not. Perceptions regarding the purpose of sessions, in addition to a need for quality facilitation and boundaried sessions appeared strong factors in perceived session usefulness. Interestingly, qualitative research on clinical psychologists' views and experiences of facilitating staff reflective practice groups in inpatient mental health settings highlights the need for groups to be flexible, given the

chaotic context of inpatient services (Heneghan, Wright, & Watson, 2014). Heneghan and colleagues (2014) also state that reflective practice groups result in increased compassion and empathy for patients, better team working, increased confidence in skills, and less judgements towards patients' difficulties and behaviour. In order for such positive outcomes to become widespread, psychologists must consider strategies to ensure a flexible, yet boundaried group, in which group members have a shared understanding of structure, aims, and goals. Psychological consultation with ward staff to develop formulations has also been demonstrated to improve the therapeutic culture of inpatient settings. For example, Kennedy, Smalley, and Harris (2003) concluded that collaborative formulation with staff was a powerful systemic intervention which enabled increased ideas regarding how to move forward with patients, whilst Robson and Quayle (2009) reported decreased staff frustration and increased empathy following the sharing of psychological formulations. However, it is of note that the impact of such interventions on patients has not yet been evaluated.

Whilst qualitative interviews with staff were an effective method of exploring the acceptability and feasibility of implementing and evaluating a guided self-help resource on an acute inpatient ward, patients' perspectives were not captured. Interviews with patients would have provided additional valuable information. However, ethical considerations (such as patient capacity to participate) may inhibit collection of a representative sample of viewpoints. What is more, only eight members of staff were interviewed, thus limiting the generalisability of findings to the wider team. Nevertheless, data saturation was reached, indicating that further interviews would not be expected to generate novel data.

Further work is needed to improve the feasibility of conducting quantitative psychological research and service evaluation with patients in acute mental health inpatient settings. It is hoped that the findings of the present study contribute to overcoming the highlighted barriers. Regular collection of outcome measures following reflective practice sessions would allow for staff perceptions of utility and positive impacts to be evaluated. This would further

facilitate an environment in which learning and development can take place; that is, where concrete experiences are reviewed and made sense of, leading to new approaches being planned, implemented and subjected to the same process of reflection, evaluation, and development (Kolb, 1984).

### **Feedback to Service**

Results of this study will be fed back to the ward manager and hospital manager by way of a report (Appendix 7). It will also be shared with the hospital psychologist. A summary of the report will be available to ward staff (Appendix 8), and the opportunity provided to discuss findings. The report will focus primarily on the barriers to implementing psychological therapy in an acute inpatient setting, and provide recommendations to overcome these.

### **Conclusions**

This study indicates that guided self-help resources may not be a feasible method of increasing emotional regulation and emotional coping skills in patients in an acute adult mental health hospital. Increased investment in psychology may be necessary in order for the hospital to be able to provide higher-intensity psychological interventions to patients as well as to support increased psychological thinking in staff and a therapeutic milieu within the hospital (e.g. through well-resourced staff reflective practice groups and team formulation), in line with existing research and recommendations (e.g. NWW; Onyett, 2007). The ward environment prevents psychological research from being possible, without this significant support from psychology.

## References

- Bloom, J. M., Woodward, E. N., Susmaras, T., & Pantalone, D. W. (2012). Use of dialectical behavior therapy in inpatient treatment of borderline personality disorder: a systematic review. *Psychiatric Services*.
- Bowers, L. (2005). Reasons for admission and their implications for the nature of acute inpatient psychiatric nursing. *Journal of Psychiatric and Mental Health Nursing*, 12(2), 231-236.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Carpinello, S. E., Knight, E. L., Markowitz, F. E., & Pease, E. A. (2000). The development of the Mental Health Confidence Scale: A measure of self-efficacy in individuals diagnosed with mental disorders. *Psychiatric Rehabilitation Journal*, 23(3), 236.
- Clarke, I., Hanna, J., & Valinejad, C. (2012). *Commissioning and delivering clinical psychology in acute adult mental health care: Guidance for commissioners, service managers, psychology managers and practitioners*.
- Department of Health. (1999). *National service framework for mental health: Modern standards and service models*. London: UK: Her Majesty's Stationery Office.
- Department of Health. (2011). *Talking Therapies: A Four Year Plan of Action*. London: UK: Department of Health Retrieved from [http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_123985.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_123985.pdf)
- Didonna, F. (2009). Mindfulness-based interventions in an inpatient setting *Clinical handbook of mindfulness* (pp. 447-462): Springer.
- Durrant, C., Clarke, I., Tolland, A., & Wilson, H. (2007). Designing a CBT service for an acute inpatient setting: a pilot evaluation study. *Clinical Psychology & Psychotherapy*, 14(2), 117-125.
- Garcia, I., Kennett, C., Quraishi, M., & Durcan, G. (2005). Acute care 2004. *A national survey of adult psychiatric wards in England*. Sainsbury Centre for Mental Health, London, b31.



- Grandison, A. L., Pharwaha, B. K., Jefford, A., & Dratcu, L. (2009). The Communication Group: bringing group psychotherapy back to acute in-patient psychiatry. *The Psychiatrist*, 33(4), 138-141.
- Heneghan, C., Wright, J., & Watson, G. (2014). Clinical psychologists' experiences of reflective staff groups in inpatient psychiatric settings: a mixed methods study. *Clinical Psychology & Psychotherapy*, 21(4), 324-340.
- Heriot-Maitland, C., Vidal, J. B., Ball, S., & Irons, C. (2014). A compassionate-focused therapy group approach for acute inpatients: Feasibility, initial pilot outcome data, and recommendations. *British Journal of Clinical Psychology*, 53(1), 78-94.
- HM Government. (2011). *No Health Without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages*. London: UK: HM Government.
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. London: UK: Piatkus Books, Ltd.
- Kennedy, F., Smalley, M., & Harris, T. (2003). Clinical psychology for in-patient settings: Principles for development and practice. In *Clinical Psychology Forum* (Vol. 30, pp. 21-24).
- Kerfoot, G., Bamford, Z., & Amelia Jones, S. (2012). Evaluation of psychological provision into an acute inpatient unit. *Mental Health Review Journal*, 17(1), 26-38.
- Kolb, D. (1984). Experiential learning as the science of learning and development. *Englewood Cliffs NPH, editor1984*.
- Kröger, C., Schweiger, U., Sipos, V., Arnold, R., Kahl, K. G., Schunert, T., . . . Reinecker, H. (2006). Effectiveness of dialectical behaviour therapy for borderline personality disorder in an inpatient setting. *Behaviour Research and Therapy*, 44(8), 1211-1217.
- Laithwaite, H., O'Hanlon, M., Collins, P., Doyle, P., Abraham, L., Porter, S., & Gumley, A. (2009). Recovery after psychosis (RAP): A compassion focused programme for individuals residing in high security settings. *Behavioural and Cognitive Psychotherapy*, 37(05), 511-526.

- Linehan, M. (1993a). *Cognitive-behavioral treatment of borderline personality disorder*. Guilford press.
- Linehan, M. (1993b). *Skills training manual for treating borderline personality disorder*. Guilford Press.
- McGowan, J., & Hall, R. (2009). *The role of psychological therapies in acute psychiatric care*. Paper presented at the Clinical Psychology Forum.
- Mullen, A. (2009). Mental health nurses establishing psychosocial interventions within acute inpatient settings. *International Journal of Mental Health Nursing*, 18(2), 83-90.
- Onyett, S. (2007). New ways of working for applied psychologists in health and social care: Working psychologically in teams. *Leicester, England: British Psychological Society*.
- Robson, J., & Quayle, G. (2009). Increasing the utility of psychological formulation: A case example from an acute mental health ward. In *Clinical Psychology Forum* (Vol. 204, pp. 25-29).
- Schizophrenia Commission. (2012). *The abandoned illness: a report from the Schizophrenia Commission*.
- Vivyan, C. (2009). Relaxing 'Safe Place' Imagery. Retrieved from <http://www.getselfhelp.co.uk/docs/SafePlace.pdf>
- We Need to Talk Coalition. (2010). *We need to talk: Getting the right therapy at the right time*. Retrieved from <http://www.mind.org.uk/media/280583/We-Need-to-Talk-getting-the-right-therapy-at-the-right-time.pdf>
- York, M. (2007). A qualitative study into the experience of individuals involved in a mindfulness group within an acute inpatient mental health unit. *Journal of Psychiatric and Mental Health Nursing*, 14(6), 603-608.

Psychosocial factors underpinning depression in Multiple Sclerosis

Laura Brown (lb631@bath.ac.uk)

Field Supervisor: Leon Dysch (Leon.Dysch@sirona-cic.org.uk)

Internal Supervisor: James Gregory (J.D.Gregory@bath.ac.uk)

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## **Literature review**

Multiple sclerosis (MS) is a neurological condition affecting more than 2.5 million people worldwide (Steinman, 2014) and an estimated 1 in 600 people in the UK (Multiple Sclerosis Society, 2014). Onset of the disease is usually between 20-40 years and whilst it is more prevalent in females, with a ratio of 2.6:1 (Noonan, Kathman, & White, 2002), the course of the disease tends to be more severe in males (Cottrell et al., 1999). In MS, a progressive condition of the central nervous system, the protective myelin sheaths of the nerve fibres become damaged or lost, resulting in a reduced ability to conduct electrical impulses to and from the brain. This demyelination causes a range of symptoms, depending on which areas of the central nervous system have been affected. Consequently, MS is a very variable condition, the symptoms of which can vary in type, severity and duration not only from person to person but also within the same individual. Nevertheless, common symptoms include fatigue, pain, movement problems, bladder control difficulties, sexual problems, and cognitive decline (Multiple Sclerosis International Foundation, no date).

MS can be differentiated into 'relapsing-remitting' and 'progressive' variants, with four further sub-groupings: relapsing-remitting; primary progressive; secondary progressive; and progressive-relapsing (Lublin & Reingold, 1996). The course of the disease is initially relapsing-remitting (characterised by acute episodes with periods of full or partial remission between episodes) in an estimated 85% of people. This then develops into the secondary progressive type in about 65% of people; this type is characterised by a steady decline of neurological functioning. In approximately 15% of people, the disease demonstrates a steady decline of neurological functioning right from the onset; primary progressive refers to degeneration without acute episodes whilst progressive-relapsing refers to a steady progression with the presence of acute episodes.

In terms of psychological morbidity after a diagnosis of MS, depression has emerged as the most prominent difficulty, with up to 50% experiencing at

least one episode of major depression (Siegert & Abernethy, 2005). The high prevalence of depression in people with MS is perhaps not surprising given that the disease is incurable and progressive, meaning that people have to continually respond to new setbacks. Combined with a relatively young age of onset, MS threatens a person's dignity, self-identity, independence and sense of certainty over future plans (Boeije, Duijnste, Grypdonck, & Pool, 2002). What is more, only one in five people with MS will not make the transition to severe disability (Pittock et al., 2004). Perceived symptom severity and the incidence of acute MS relapses, in particular, have been linked to increased depression and reduced quality of life, with prevalence rates of depression found to be higher during relapse than post-relapse (e.g. Chwastiak et al., 2002; Kalb, 2007; Moore et al., 2012). Furthermore, evidence indicates that there is an elevated prevalence of major depression in people with MS when compared both with those without a chronic health condition and those reporting another chronic condition (e.g. fibromyalgia and chronic fatigue syndrome; Patten, Beck, Williams, Barbui, & Metz, 2003).

A model of the psychosocial factors underpinning depression in people with MS has been proposed, hypothesising social support, coping, stress, and conceptions of self and illness as possible moderators of the relationship between common MS sequelae (e.g. pain and fatigue) and depression (see Figure 1. below; Arnett et al., 2008).

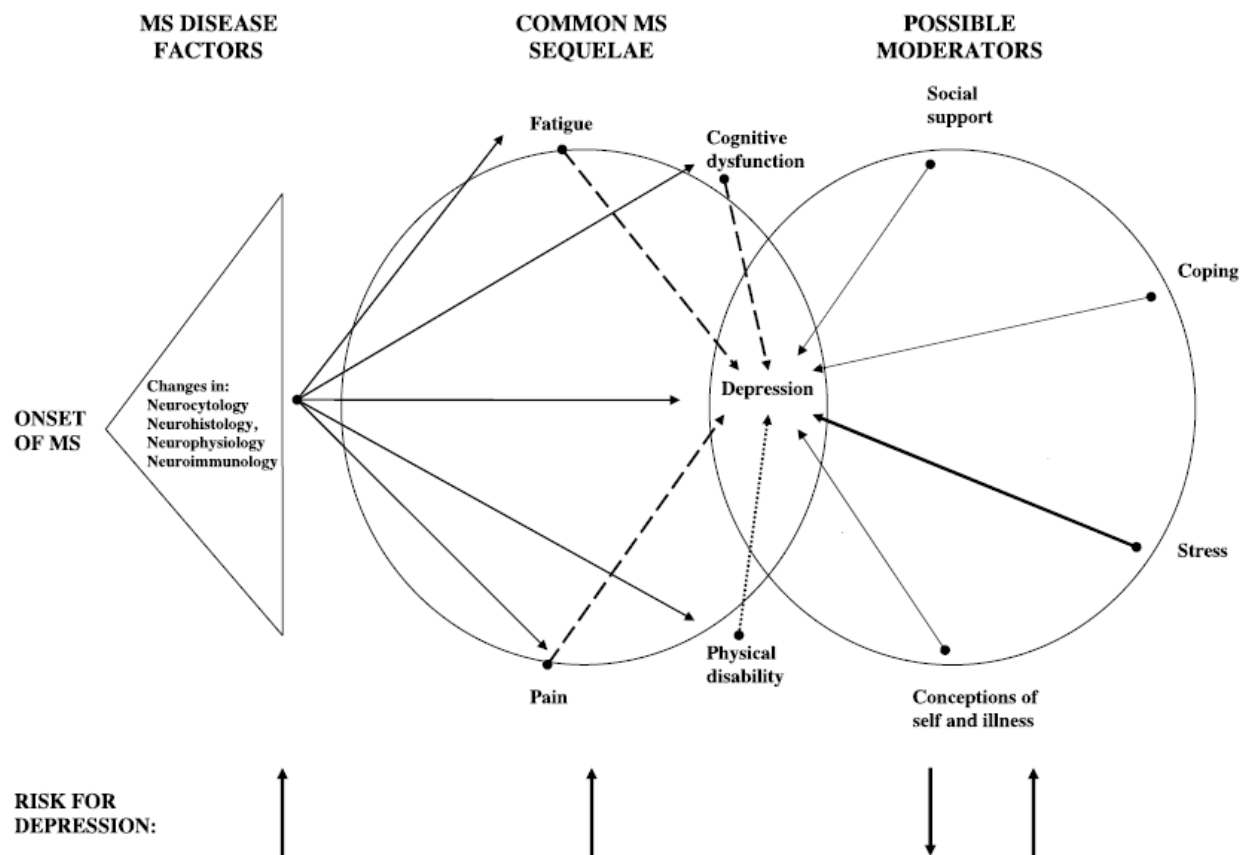


Figure 1. Model of depression in MS (Arnett, Barwick, & Beeney, 2008)

### Research related to Arnett and colleagues' (2008) model of depression in MS.

*Social support.* Although limited, recent evidence has emphasised the role of social support, reporting an inverse association with depression (e.g. Suh, Weikert, Dlugonski, Sandroff, & Motl, 2012). Additionally, whilst perceived social support is independently associated with depressive symptoms in people with MS, there is preliminary evidence for the assertion that social support can buffer the effects of depression on immune function in people with MS (Mohr & Genain, 2004).

*Conceptions of self and illness.* Increasing levels of disability impact upon a person's independence, self-concept and self-efficacy (conceptualised as the belief in one's own ability to cope). Indeed, self-efficacy has been found to predict psychosocial adjustment (Eccles & Simpson, 2011) and depression (Amtmann et al., 2012) in MS. What is more,

the impact of self-efficacy on physical, social, and cognitive functioning is significant and remains so when controlling for disease-related factors (e.g. severity of MS symptoms) and depressive symptomatology (Schmitt, Goverover, DeLuca, & Chiaravalloti, 2014). Treatment aimed at improving self-efficacy has also been found to result in improvements in health-related quality of life (Jongen et al., 2014). Whilst the links between both self-efficacy and social support, and depression are well established in the general population (e.g. Muris, 2002; Grav, Hellzèn, Romild, & Stordal, 2012) and other chronic health conditions (e.g. Arnstein, Caudill, Mandle, Norris, & Beasley, 1999; Müller, Peter, Cieza, & Geyh, 2012), this evidence is not as yet well-established in MS.

*Stress and coping.* The associations between stress, coping, and depression in people with MS have been frequently cited in the literature. For example, a review by Dennison, Moss-Morris, and Chalder (2009) reported a consistent positive association between emotion-focussed coping strategies and depression, and an inverse association of problem-focused coping. Relatedly, research (e.g. Aikens, Fischer, Namey, & Rudick, 1997) has reported life stress to be associated with both present depression, and the development of future depressive symptoms. When simultaneously examining coping, stress, and social support, only coping was found to be related to depression (Pakenham, 1999).

### **Limitations to Arnett and colleagues' (2008) model of depression in MS**

Whilst the model synthesises findings related to depression in people with MS, it remains a collection of various psychosocial factors drawn together without theoretical coherence. Additionally, it is missing factors that may be equally relevant to the development of depression in people with MS. For example, research exploring the role of self-compassion (which relates to non-judgemental self-acceptance and emotion regulation when confronting adverse situations) in chronic health conditions such as cancer has found strong associations between self-compassion and decreased symptoms of depression and increased quality of life (Pinto-Gouveia, Duarte, Matos, & Fráguas, 2014). Recent empirical evidence has also demonstrated the role

of self-compassion in mitigating disabling levels of self-criticism and depression in people with acquired brain injuries (Ashworth et al., 2015). Additionally, self-criticism has been reported as a key factor in differentiating depressed and non-depressed individuals following a traumatic brain injury (Seel, Macciocchi, & Kreutzer, 2010). Indeed, compassion-focused therapy (CFT) approaches assert self-criticism as an underlying process central to the maintenance of mental health difficulties, including depression (Gilbert, 2009).

Thus, self-compassion and self-criticism have demonstrated strong associations with depression and are emerging as important constructs underlying psychological adjustment to chronic health and neurological conditions. Given that MS is a potentially stigmatising neurological condition comprising a range of debilitating symptoms which threaten to disrupt functioning, quality of life, and relationships with others, it seems plausible that high levels of self-criticism and low levels of self-compassion might also be related to depression in MS.

A further limitation of the model relates to the role that anxiety might play in the onset of depression. Evidence indicates that anxiety may be a precursor to the development of depressive symptoms in the general population (Starr & Davila, 2012), with anxiety symptoms contributing greater risk to the development of depression than depressive symptoms (Batterham, Christensen, & Calex, 2013). Certainly, rates of anxiety are higher in people with MS than those found in the general population (Korostil & Feinstein, 2007) and when investigating a number of psychosocial factors in people with MS (e.g. anxiety, coping, social support, locus of control, alexithymia, functional status, and self-esteem), anxiety (in addition to functional status) has emerged as a key predictor of depression (Gay, Vrignaud, Garitte, & Meunier, 2010).

In particular, health anxiety is emerging as a significant difficulty in people with MS, when compared with the general population (Kehler & Hadjistavropoulos, 2009). People with high levels of health anxiety perceive



themselves as being more by MS and report a lower quality of compared to people with low levels of health anxiety, even though objective measures show no difference in functioning (Hayter, Salkovskis, Silber, & Morris, 2016). In light of this evidence, both generalised and health anxiety are factors that may be missing in Arnett and colleagues' (2008) model of depression in people with MS, and as such, merit further investigation.

One final important psychosocial factor that is related to MS sequelae (e.g. pain) and depression, but is absent from the Arnett et al. (2008) model, is mental defeat (MD). MD has been conceptualised as, "a state of mind marked by a sense of a loss of autonomy, agency and human integrity" (Tang, Goodchild, Hester, & Salkovskis, 2010). It refers to a type of self-processing which impacts more deeply a person's sense of self and is likely a passive reaction to the experience of uncontrollable traumatic events or pain which results in negative beliefs about the self and the giving up of efforts to maintain identity and self-will (Ehlers, Maercker, & Boos, 2000).

MD has been demonstrated a significant predictor of pain interference, psychosocial disability and depression in individuals with chronic pain both in the UK (Tang et al., 2010) and Hong Kong (Tang, Shum, Leung, Chen, & Salkovskis, 2013). Similarly, pain (a prominent symptom in people with MS), has been regarded as an assault on a person's sense of self (Smith and Osborn, 2007) and has been frequently associated with depression (e.g. Kroenke et al., 2011). Given that people are also constantly responding to setbacks as a result of the challenges faced in both relapse-remitting and progressive forms of MS and the likely impact of this upon a person's self-identity and reduced sense of certainty over future plans (Boeije et al., 2002), it would be surprising if this didn't represent a key stepping stone on the journey to depression in people with MS. Of note, when helplessness (a concept related to MD) was simultaneously compared with self-efficacy and cognitive distortions in people with MS, only helplessness emerged as a significant predictor of depression (Shnek, Foley, LaRocca, Smith, & Halper, 1995). Accordingly, MD may play a similar critical role in MS as it does in other health conditions (e.g. Grozdziej, 2015; Tang et al., 2010).

Moreover, it could be argued that MD may even be the construct through which other psychosocial factors (e.g. self-criticism and anxiety), exert their effect on depression. It is known that MD hinders the ability to cope effectively and has been suggested to seriously challenge a person's sense of competence (Dunmore, Clark, & Ehlers, 2001), likely resulting in withdrawal and avoidance. According to the cognitive behavioural theory of depression, these consequences are also key to the development and maintenance of depression. Given that MD impacts so deeply a person's sense of self, and consequences include feelings of being dominated by pain, such that negative beliefs about the self in relation to the pain are triggered, it seems plausible that MD may indeed be a moderating factor in the development of depression. For example, it is plausible that internal shame resulting in self-criticism may originate from those negative self-beliefs inherent in MD. Additionally, anxiety surrounding their condition or the future may be resultant of the information processing biases and maladaptive coping which follow MD. However, these assertions have yet to be tested and exploration regarding the significance of MD in MS-related depression is timely.

### **The present study**

MS has been reliably associated with high levels of depression, but there is limited research into the psychosocial factors underpinning this relationship. The model proposed by Arnett and colleagues (2008) remains a collection of psychosocial factors that have been examined in isolation from one another and the factors proposed are limited compared to what is known about risk and protective factors related to depression and physical symptoms in other health conditions. At present, there is no research which examines these factors in combination to understand both what factors are specific to depression in MS and the relative contribution of relevant factors to predicting depression severity in MS. As such, the present study seeks to explore this.

## Aims and hypotheses

This study aimed to investigate the constructs of social support, self-efficacy, mental defeat, self-compassion, self-criticism, anxiety, and health anxiety in relation to depression in people with MS. Perceived symptom severity and impact of pain are further factors that were considered, aligned with the existing empirical literature surrounding depression in MS. The study aimed first to examine these constructs between groups of people with MS have depression and those who do not. Second, it aimed to examine the relative contribution of each of these factors and finally, it aimed to examine the potential moderating role of MD.

It was hypothesised that:

- 1) If the factors proposed above are important in understanding depression then they should all be significantly different in a depressed MS group compared to a non-depressed MS group.
- 2) Psychosocial variables will be associated with elevated depression.  
Specifically:
  - a) Lower levels of perceived social support, self-compassion, and self-efficacy are each associated with elevated depression.
  - b) Higher levels of self-criticism, anxiety, health anxiety, perceived symptom severity, interference of pain, and MD are each associated with elevated depression.
- 3) MD mediates the relationships found between the above stated psychological adjustment variables and depression.

## Method

**Participants.** Participants were 86 people with a clinical diagnosis of MS (mean age = 53.8; SD = 11.6; range = 25-83), recruited from the caseloads of MS nurses in a Community Neuro and Stroke Service and an MS therapy centre. Participants were eligible for inclusion in the present study if they were an adult over the age of 18 and had a diagnosis of

relapsing-remitting, primary progressive, secondary progressive, or progressive-relapsing MS. Participants were excluded if they had significant cognitive or visual impairments that could hinder their ability to read and understand the battery of questionnaires; were currently misusing drugs or alcohol; had a comorbid neurological disorder other than MS; or had significant cognitive difficulties.

Full ethical approval was obtained for this study from the NHS (East Midlands – Nottingham Research Ethics Committee; reference 15/EM/0410). See Appendix 9 for documentation.

**Measures.** A questionnaire booklet was developed in collaboration with people with personal experience of MS. That is, the manager of a local MS therapy centre was consulted with regards to the development of all materials and five people with personal experience of MS were invited to comment (recruited from the Community Neuro and Stroke Service (n=2) and a local MS therapy centre (n=3)). This was in order to ensure that materials were suitable for the target population (e.g. easy to read and understand, and of an appropriate length to complete without fatiguing). The booklet contained the following measures:

***Demographic/background questionnaire.*** Participants were asked to provide information on the following: age; gender; ethnicity; employment status; marital and family status; MS diagnosis; time since diagnosis; whether they are taking disease-modifying medication; number of MS relapses in the preceding 12 months; current mental health concerns; and history of depression. As participants recruited from the MS therapy centre were not independently screened for eligibility, the questionnaire contained two self-rated screening questions on cognitive functioning and substance misuse. Participants with significant concerns about their memory and thinking skills, or concerns regarding their drug and alcohol use were excluded from the present study. See Appendix 10.

***Interference Subscale of the Brief Pain Inventory (BPI; Cleeland & Ryan, 1994).*** This subscale measures how much pain has interfered with seven daily activities over the past week (i.e. general activity, mood, walking ability/mobility, work, relations, sleep, and enjoyment of life). Items are rated on an 11-point scale, from 0 ('does not interfere') to 10 ('completely interferes'). A higher mean score indicates a higher level of pain interference. In the present study, the modified version of the BPI was used, such that 'walking ability' was changed to read 'walking ability/mobility' in line with research by Osborne, Raichle, Jensen, Ehde, and Kraft (2006) and in light of the fact that many people with MS are unable to walk. The modified BPI Interference subscale has demonstrated validity and reliability for assessing pain interference in people with MS (Osborne et al., 2006).

***Multiple Sclerosis Impact Scale-29 (MSIS-29; Hobart, Lamping, Fitzpatrick, Riazi, & Thompson, 2001).*** This is a 29-item perceived symptom severity measure developed as a rigorous assessment of the physical and psychological impact of MS from the individual's perspective. Items such as, 'in the last two weeks, how much have you been bothered by problems with your balance', are rated on a 5-point Likert scale from 1 ('not at all') to 5 ('extremely'). A higher total score indicates a greater degree of disability. The MSIS-29 has demonstrated good validity and reliability in community (Hobart et al., 2001) and hospital populations (Riazi, Hobart, Lamping, Fitzpatrick, & Thompson, 2002).

***Multiple Sclerosis Self Efficacy Scale (MSSES; Schwartz, Coulthard-Morris, Zeng, & Retzlaff, 1996).*** The MSSES is an 18-item measure of self-efficacy, with demonstrated reliability and validity. It comprises of two subscales: MSSES-Function, which measures confidence with ability to engage in daily living activities (e.g. 'as of now, how certain are you that you can get dressed or undressed without assistance'), and MSSES-Control which measures confidence with managing symptoms and coping with the impact of the disease (e.g. 'as of now, how certain are you that you can control your fatigue'). Items are rated on a 10-point Likert scale,

from 10 ('very uncertain') to 100 ('very certain'), with higher total scores indicating a higher degree of MS-related self-efficacy.

***Patient Health Questionnaire-9 (PHQ-9; Spitzer, Kroenke, Williams, & Patient Health Questionnaire Primary Care Study Group, 1999).*** The PHQ-9 has been demonstrated to be a valid and measure of depression severity in people with MS (Sjonnesen et al., 2012). Items such as, 'over the last two week, how often have you been bothered by little interest or pleasure in doing things', are rated on a four-point Likert scale, ranging from 0 ('not at all') to 3 ('nearly every day'). Scores of 10 or above on this 9-item measure indicate clinically significant levels of depression.

The PHQ-9 was chosen over lengthier measures such as the BDI, so as to minimise respondent fatigue. Research indicates that the PHQ-9 is as acceptable (in terms of uni-dimensionality and inter-item reliability) as the CESD-10 and PROMIS-D-8 in measuring depressive symptoms in individuals living with MS (Amtmann et al., 2014).

***Generalised Anxiety Disorder Assessment-7 (GAD-7; Spitzer, Kroenke, Williams, & Löwe, 2006).*** The GAD-7 is a 7-item measure of anxiety symptoms, in which items such as, 'over the last two weeks, how often have you been bothered by trouble relaxing', are rated on a four-point Likert scale, ranging from 0 ('not at all') to 3 ('nearly every day'). Scores of 8 or above indicate caseness. The GAD-7 has demonstrated reliability and validity as a measure of anxiety in people with MS (Terrill, Hartoonian, Beier, Salem, & Alschuler, 2014).

***Short Health Anxiety Inventory (SHAI; Salkovskis, Rimes, Warwick, & Clark, 2002).*** The SHAI is a measure of health anxiety for use with the general population and in psychiatric and medical contexts. The SHAI comprises 14 groups of four statements related to the symptoms of health anxiety, each of which is ranked on a four-point scale (0–3). Scores of 15 or over, indicate that the person has symptoms of health anxiety, whilst scores of 18 or over indicate clinical caseness (Seivewright et al., 2004). The

SHAI has good internal consistency (Cronbach  $\alpha = 0.89$ ). The SHAI has been modified in line with Kelher and Hadjistavropoulos (2009), such that items relating to anxieties about having a serious illness, have been suffixed with “other than MS”.

***Self-compassion scale (SCS; Neff, 2003).*** The SCS is a 26-item measure of self-compassion, comprising of six subscales: self-kindness, self-judgement, common humanity, isolation, mindfulness, and over-identification. Items are rated on a five-point Likert scale, from 1 (‘almost never’) to 5 (‘almost always’), with regards to how often the person behaves in the stated manner (e.g. ‘when times are really difficult, I tend to be tough on myself’). Scores on the self-judgement, isolation, and over-identification subscales are reversed before a mean score of each subscale is calculated; higher mean scores indicate a higher level of self-compassion (1-2.5=low; 2.5-3.5=moderate; 3.5-5=high). Results from Neff (2003) indicate good construct and content validity and test-retest reliability, although to date, it has not been tested in people with MS.

***Forms of self-criticising/attacking and self-reassuring scale (FSCRS; Gilbert, Clarke, Hempel, Miles, & Irons, 2004).*** This is a 22-item measure of the way that people think and feel about themselves when things go wrong for them. Items such as ‘when things go wrong for me, I am easily disappointed with myself’, are rated on a five-point Likert scale, ranging from 0 (‘not at all like me’) to 4 (‘extremely like me’). The scale comprises three subscales: inadequate self (focusing on personal inadequacy), hated self (focusing on the desire to persecute the self), and reassured self (focusing on ability to self-reassure). Gilbert and colleagues (2004) demonstrated a Chronbach’s alpha of .90 for the inadequate self subscale and .86 for the hated self and reassured self subscales. However, it has not been used in people with MS to date. For the present study, the two self-criticism scales (inadequate self and hated self) were combined to give one self-criticism score. Higher scores indicate a higher level of self-criticism.

***Pain Self Perception Scale (PSPS; Tang, Salkovskis, & Hanna, 2007).*** The PSPS assesses mental defeat in relation to pain. It includes 24 items that describe thoughts and feelings attributable to pain (e.g. 'I feel powerless'). Each item is rated on a five-point Likert scale, ranging from 0 ('not at all/never') to 4 ('very strongly'). Higher total scores indicate a greater level of mental defeat. The PSPS is found to have internal consistency (Cronbach  $\alpha = 0.98$ ) and test–retest reliability ( $r = 0.92$ ) when used with patients with chronic pain. Whilst the PSPS has not been previously used in people with MS, it has been modified for the present study, such that instead of referring specifically to pain, respondents are asked to describe the MS symptoms most bothering them at present before rating the extent to which each item applies. All items begin with the phrase, 'Because of my MS symptoms...'.

***Social Provisions Scale (SPS; Cutrona, 1987).*** The SPS is a 24-item measure of perceived social support. Items such as, 'there are people who depend on me for help', are rated on a four-point Likert scale, ranging from 1 ('strongly disagree') to 4 ('strongly agree'). The measure contains six subscales: guidance, reassurance of worth, social integration, attachment, nurturance, and reliable alliance. Higher scores indicate a greater perceived level of support. The SPS has demonstrated reliability and validity, and has been used in studies of MS (e.g. Suh et al., 2012).

**Design.** The present study employed a quantitative, cross-sectional design. Self-report questionnaires were used to explore the above hypotheses.

**Procedure.** The clinical neuropsychologist in the Community Neuro and Stroke Service screened the caseloads of the MS nurses in order to exclude those patients known to meet the exclusion criteria (e.g. significant cognitive impairment or comorbid neurological disorder). Study materials were then sent to the identified patients: An invitation letter, (outlining the reason why they have been selected and requesting participation in the study; Appendix 11), information sheet (explaining the purpose of the study;



Appendix 12), consent form (Appendix 13), and questionnaire booklet (see 'Measures' above). A pre-paid addressed envelope was also enclosed to encourage return. The invitation letter and information sheet highlighted that the questionnaire could be completed in various ways, depending on participant need (independently, online, or via a telephone or face-to-face meeting with the chief researcher).

In the case of the MS therapy centre, participants were not screened prior to receiving the questionnaire booklet. Rather, packs containing the same study materials as above were left in communal areas of the MS therapy centre, alongside a poster inviting people to take part.

Upon return of the questionnaire pack, participants were provided with a £5 Amazon voucher, with a letter thanking them for their time and informing them where they can obtain a copy of the results of the study also enclosed.

### **Statistical analyses and treatment of data**

Statistical analyses were performed using IBM SPSS Statistics, version 22. An alpha level of 0.05 was used. Data were screened for outliers, missing data, and violations of the assumptions for the planned analyses (independent samples t-tests and multiple linear regressions). Table 1. below outlines which demographic data was missing from the final dataset. Little's Missing Completely at Random test was not significant for the questionnaire data, indicating that data was likely to be missing at random. Resultantly, the decision was made to use expectation-maximisation imputation for missing questionnaire data where 15% of items (or less) were missing. In those questionnaires where more than 15% of items were missing, listwise deletion was employed.

Independent samples t-tests were employed to examine differences in scores of health anxiety and self-compassion, between those who met the clinical threshold for depression and those who did not (hypothesis one). As

data regarding interference of pain, perceived symptom severity, self-efficacy, anxiety, perceptions of social support, self-criticism, and MD all violated the assumption of normal distribution, differences on these scores were examined using Mann-Whitney U tests. Correlation analyses were then conducted on the whole sample to examine the associations between each of the above variables and depression (hypothesis two; both parametric and non-parametric depending upon whether the variable met test assumptions). Holm-Bonferroni sequential corrections (Holm, 1979) were employed to correct for multiple testing.

In order to examine the relative contribution of each of the above psychosocial variables in predicting depression, a multiple regression analysis was employed.

Finally, the mediation hypotheses (hypothesis three) were tested using the PROCESS macro for SPSS (Hayes, 2013) and employed a bootstrapping method with 1000 re-samplings and 95% confidence interval (CI). As such, bootstrapped standard errors are reported for the indirect effects.

Prior to conducting the regressions, variables were standardised (into Z-scores) and tests of their assumptions were conducted. Results indicated that the data met the assumption of independent residuals (using the Durbin-Watson statistic), whilst histogram, P-P, and scatter plots indicated that the assumptions of normality (the residuals approximated normal distribution), linearity and homoscedasticity were all satisfied. Collinearity statistics (i.e. tolerance and variation inflation factor (VIF)) were all within accepted limits (Field, 2005), indicating that the assumption of no multicollinearity was met. When conducting the regression analyses on pain interference, one case was excluded due to a standardised residual of over 3.29.

## **Power**

Previous related studies of factors associated with depression in MS have not reported effect sizes or variances, however consultation with experienced clinical professionals have advocated the assumption of a medium-to-large

effect size. A priori power calculations using G\*Power indicated a required sample size of 54, to achieve an effect size of .35, power of .8, and alpha of .05.

## Results

**Participants.** Ninety-five participants returned a questionnaire pack (275 were sent out); this gave a response rate of 34.55%. However, five of these respondents did not return a completed consent form and so were excluded from analyses. A further four respondents were excluded as they self-identified that they had significant concerns about their memory or thinking skills (an exclusion criterion). This resulted in a total of 86 participants included in analyses (82.6% from the Community Neuro and Stroke Service; 17.4% from the MS therapy centre).

Demographic characteristics for the 86 participants are summarised in Table 1. In brief, the mean age of participants was 53.8 years, and the majority were female (72.1%) and White British (91.9%). Almost half of participants (46.5%) reported that they were in full-time or part-time employment, whilst over a quarter (27.9%) reported that they were unable to work due to their MS. In terms of mental health, 10.5% reported that they were currently experiencing a mental health difficulty (anxiety and/or depression), whilst 40.7% reported a history of depression. Almost half of these reported experiencing more than four previous episodes of depression (48.57%).

With regards to MS characteristics, 23.3% of respondents reported taking disease modifying medication. The majority of respondents had a progressive variant of MS (i.e. primary progressive, secondary progressive, or progressive-relapsing; 51.2%), whilst 44.2% had the relapsing-remitting variant. Interestingly, although the relapsing-remitting group reported between 0 and 5 relapses over the previous year (mean=0.68), the progressive group also reported relapses (mean=0.94; range=0-10). An independent samples t-test revealed no significant differences in the number

of relapses reported between the progressive and relapsing-remitting group ( $t(63) = .74, ns$ ). This difference remained non-significant when removing the outlier in the progressive group (number of relapses reported as 10;  $t(62) = .03, ns$ ). As distinct episodes of symptoms are the defining feature of relapsing-remitting MS, and this did not differ significantly between groups, no distinction was made between the MS sub-types in the analyses.

Table 1. Demographic, medical, and mental health characteristics

<b>Demographic characteristics</b>	Above clinical threshold for depression (PHQ score $\geq 10$ ) n=27	Below clinical threshold for depression (PHQ score $< 10$ ) n=58
Age (years)		
Mean (SD)	52.3 (13.2%)	54.4 (10.9%)
Range	25-83	26-77
Gender		
Male	4 (14.8%)	20 (34.5%)
Female	23 (85.2%)	38 (65.5%)
Ethnicity		
White British	26 (96.3%)	52 (89.7%)
White European	0	2 (3.4%)
Mixed White and Black Caribbean	0	1 (1.7%)
Not stated	1 (3.7%)	3 (5.2%)
Employment		
Full-time	3 (11.1%)	13 (22.4%)
Part-time	6 (22.2%)	18 (31%)
Homemaker	4 (14.8%)	2 (3.4%)
Retired	7 (25.9%)	15 (25.9%)
Unemployed	7 (25.9%)	3 (5.2%)
Employed on long-term sick	0	1 (1.7%)
Other (e.g. self-employed)	0	6 (10.3%)
Marital Status		
Single	3 (11.1%)	3 (5.2%)
Married	16 (59.3%)	40 (69%)
Separated/Divorced	2 (7.4%)	3 (5.2%)
Co-habiting	5 (18.5%)	4 (6.9%)
Widowed	1 (3.7%)	7 (12.1%)
Not stated	0	1 (1.7%)
Children		

Yes	19 (70.4%)	38 (65.5%)
No	8 (29.6%)	19 (32.8%)
Not stated	0	1 (1.7%)
<b>Medical Characteristics</b>		
Time since diagnosis (years)		
Mean (SD)	13.5 (10.0)	12.9 (9.9)
Range	0-39	0-36
Not stated		
Diagnosis		
Primary progressive MS	8 (29.6%)	11 (19%)
Secondary progressive MS	7 (25.9%)	16 (27.6%)
Progressive-relapsing MS	1 (3.7%)	0
Relapsing-remitting MS	9 (33.3%)	29 (50%)
Not stated	2 (7.4%)	2 (3.4%)
Relapses in previous 12 months		
n	18	47
Mean (SD)	0.83 (1.4)	0.77 (1.7)
Range	0-5	0-10
Disease modifying medication		
Yes	6 (22.2%)	14 (24.1%)
No	19 (70.4%)	34 (58.6%)
Not stated	2 (7.4%)	10 (17.2%)
<b>Mental Health Characteristics</b>		
Current Mental Health Difficulties		
Yes	6 (22.2%)	3 (5.2%)
Depression (as a % of those endorsing current mental health difficulties)	5 (83.3%)	2 (66.7%)
Anxiety (as a % of those endorsing current mental health difficulties)	0	1 (33.3%)
Depression and anxiety (as a % of those endorsing current mental health difficulties)	1 (16.7%)	0
No	20 (74.1%)	54 (93.1%)
Not stated	1 (3.7%)	1 (1.7%)
History of depression		
Yes	17 (63%)	18 (31%)

1 episode (as a % of those endorsing history of depression)	1 (5.9%)	7 (38.9%)
2-4 episodes (as a % of those endorsing history of depression)	6 (35.3%)	4 (22.2%)
More than 4 episodes (as a % of those endorsing history of depression)	10 (58.8%)	7 (38.9%)
No	9 (33.3%)	40 (69%)
Not stated	1 (3.7%)	0

## Primary analyses

### Clinical and non-clinical depression comparisons (Hypothesis 1)

Independent t-tests and Mann-Whitney U tests revealed significant differences on all examined variables between those participants meeting the clinical threshold for depression and those who did not (see Table 2.). That is, those meeting the clinical threshold for depression reported significantly higher scores of pain interference, perceived symptom severity, anxiety, health anxiety, self-criticism, and mental defeat than those who did not. They also scored significantly lower than their counterparts on measures of self-compassion, self-efficacy, and perceived social support.<sup>1</sup>

Table 2.  
Results from between-samples analyses

Variable	Above clinical threshold for depression (PHQ score $\geq 10$ ) Mean (SD) / Median Range (n)	Below clinical threshold for depression (PHQ score $< 10$ ) Mean (SD) / Median Range (n)	Statistic
Pain interference <sup>a</sup>	5.93 0-9 (n=26)	1.57 0-9 (n=58)	$U = 283.00, p < .001, r = -.50$
Perceived symptom severity <sup>a</sup>	95.00 47-141 (n=27)	67.00 29-126 (n=58)	$U = 348.50, p < .001, r = -.44$

<sup>1</sup> All tests remained significant when controlling for the possible confounding effects of experience of previous depression and employment status, using ANCOVAs and post-hoc Holm-Bonferroni sequential corrections.

Anxiety <sup>b</sup>	9.00 2-21 (n=27)	2.50 0-13 (n=58)	$U = 180.50, p < .001, r = -.62$
Health anxiety <sup>c</sup>	14.07 (7.06) 2-27 (n=27)	9.47 (5.48) 1-25 (n=56)	$t(81) = -3.26, p < .005, r = .34, d = .73$
Self-criticism <sup>a</sup>	24.50 10-54 (n=26)	13.00 0-38 (n=58)	$U = 264.00, p < .001, r = -.52$
Mental defeat <sup>a</sup>	39.00 8-91 (n=25)	7.00 0-70 (n=57)	$U = 174.00, p < .001, r = -.60$
Self-compassion <sup>d</sup>	2.67 (.63) 1-4 (n=27)	3.47 (.78) 2-5 (n=57)	$t(82) = 4.70, p < .001, r = .46, d = 1.13$
Self-efficacy <sup>a</sup>	700.00 240-1470 (n=27)	1305.00 390-1800 (n=54)	$U = 227.00, p < .001, r = -.56$
Perceived social support <sup>a</sup>	74.00 56-91 (n=26)	83.00 57-93 (n=55)	$U = 441.50, p < .01, r = -.31$

<sup>a</sup> = Higher scores indicate a greater degree of factor being measured

<sup>b</sup> = Scores of 8 or above indicate clinical caseness

<sup>c</sup> = Scores of 15-17 indicate symptoms of health anxiety. Scores of 18+ indicate clinical caseness

<sup>d</sup> = 1-2.5=low; 2.5-3.5=moderate; 3.5-5=high

## Secondary analyses

### Correlation and regression analyses (hypothesis 2)

A series of correlations were conducted in order to examine the association between each of the psychosocial variables and depression. Results indicated that each variable was significantly associated with depression (see Table 3.). There was a strong positive correlation between depression and pain interference, perceived symptom severity, anxiety, self-criticism and MD, and a moderate positive correlation between depression and health anxiety. There was a strong negative correlation between depression and self-efficacy, and a moderate negative correlation between depression and self-compassion and perceived social support.

Table 3.  
Correlations with depression

Variable	Statistic
Pain interference #	$r_s(82)=.61, p<.01$
Perceived symptom severity	$r(83)=.61, p<.01$
Anxiety #	$r_s(83)=.70, p<.01$
Health anxiety #	$r_s(81)=.43, p<.01$
Self-criticism #	$r_s(82)=.62, p<.01$
Mental defeat #	$r_s(80)=.76, p<.01$
Self-compassion	$r(82)=-.58, p<.01$
Self-efficacy	$r(79)=-.65, p<.01$
Perceived social support #	$r_s(79)=-.44, p<.01$

Note: # = Spearman rank correlation coefficients are reported.

### Regression analyses

A multiple linear regression was conducted in order to determine the relative contribution of each of the psychosocial variables examined in predicting depression. When all variables were entered into the model, only general anxiety and MD emerged as significant predictors of depression (see Table 4.)<sup>2</sup>.

<sup>2</sup> This remained the case when including the potential confounders of employment status and previous experience of depression into a regression model.



Table 4.

Summary of multiple regression analysis for psychosocial variables predicting depression in people with MS (n=72)

Variable	$\beta$	$SE \beta$	$\beta$
Pain interference	.188	.102	.181
Perceived symptom severity	.036	.129	.034
Anxiety	.441	.090	.419***
Health anxiety	-.063	.085	-.061
Self-criticism	.160	.105	.149
Mental defeat	.284	.117	.267*
Self-compassion	.035	.113	.033
Self-efficacy	-.074	.121	-.071
Perceived social support	-.015	.082	-.014
	$R^2$	.780	
	$F$ for $R^2$	24.763***	

Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

### Tertiary analyses

#### Mediation analyses (hypothesis 3)

The mediation effect of mental defeat on the relationships between the above stated psychosocial predictors and depression was investigated using the PROCESS macro for SPSS (Hayes, 2013). A mediation effect is considered to have occurred if the 95% confidence interval does not cross 0 (Hayes, 2013). Results indicate that MD significantly mediated the relationship between each of the psychosocial predictor variables and depression<sup>3</sup>. Of particular note, MD fully mediated the relationship between health anxiety and depression, self-compassion and depression, and perceived social support and depression. See Table 5. for a summary of results and Figures 2. to 9. (Appendix 14) for each mediational model.

<sup>3</sup> When including employment status and previous experience of depression into the PROCESS model as covariates, the results remained significant.

Table 5.

Summary of analyses examining MD as a mediator of the relationship between psychosocial predictor variables and depression in people with MS

Predictor variable (PV)	Mediating variable (MV)	Dependent variable (DV)	Effect of PV on MV (a)	Effect of MV on DV (b)	Direct effect (c')	Indirect effect (c-c'): 95% CI (bias corrected intervals)	Total effect (c)
Pain interference	Mental defeat	Depression	.50*** (.10)	.51*** (.08)	.39*** (.08)	.25 (.07): .14 to .42	.64*** (.08)
Perceived symptom severity			.64*** (.08)	.51*** (.10)	.32** (.10)	.33 (.07): .20 to .48	.65*** (.08)
Anxiety			.60*** (.10)	.42*** (.08)	.55*** (.08)	.25 (.07): .13 to .41	.80*** (.08)
Health anxiety			.53*** (.10)	.64*** (.09)	.15 (.09)	.34 (.08): .19 to .48	.49*** (.10)
Self-criticism			.05*** (.01)	.53*** (.09)	.03** (.01)	.03 (.01): .02 to .04	.06*** (.01)
Self-compassion			-.71*** (.08)	.61*** (.11)	-.17 (.11)	-.43 (.10): -.64 to -.26	-.60*** (.09)
Self-efficacy			-.69*** (.08)	.53*** (.11)	-.32** (.10)	-.37 (.10): -.60 to -.20	-.68*** (.09)
Perceived social support			-.61*** (.09)	.72*** (.10)	-.03 (.10)	-.44 (.10): -.66 to -.27	-.47*** (.10)

Note: Unstandardized regression coefficients are reported (with standard errors in parentheses).

Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

## Discussion

This study aimed to examine a range of psychosocial adjustment variables in predicting MS-related depression. The prevalence of depression (as measured by the PHQ-9 screening tool) in this study was 31.40%, a figure not dissimilar from that found by other studies (e.g. Patten and colleagues (2003) reported a 25.7% 12-month period prevalence). In line with existing and emerging evidence, and the study hypotheses, each psychosocial variable explored was found to be significantly associated with depression and each differed significantly when comparing those people who scored above the clinical threshold for depression using the PHQ9 with those who did not. That is, high levels of self-criticism, MD, anxiety, health anxiety, pain interference, and perceived symptoms severity, and low levels of self-compassion, self-efficacy, and perceived social support, were associated with increased depression symptoms. MD was found to mediate the relationships between each of the psychosocial factors and depression.

The results of the between-group comparisons ('clinical' versus 'non-clinical' depression scores) highlight that potentially modifiable psychosocial factors may contribute to the development of depression, over and above the experience of having a diagnosis of MS and its related symptoms. A key difference between the 'clinical' and 'non-clinical' depression groups relates to the measure of MD, on which the 'clinical' group scored on average 43.36 (out of 96), indicating a much greater level of MD than the 'non-clinical' group, who scored 13.97 on average. Additionally, with regards to anxiety, the 'clinical' group also met the clinical threshold for anxiety, but the 'non-clinical' group did not. In line with existing research regarding the possible buffering effect of self-efficacy on depression (e.g. Amtmann et al., 2012), between-group differences in self-efficacy also appeared large, with the 'clinical' group scoring 778.41 on average (out of 1800) and the 'non-clinical' group scoring higher at 1302.03 on average, indicating a potential buffering effect of self-efficacy against depression.

Differences in self-criticism appeared more moderate ('clinical' group average=27.15 (out of 56); 'non-clinical' group average=13.77). Differences relating to health anxiety are perhaps less meaningful, as both groups scored below the threshold for health anxiety. Also, both groups scored in the 'moderate' range for self-compassion. Whilst significant between-group effects and correlations support the contention that self-compassion and self-criticism are related to depression in people in MS, just as is in other chronic health and neurological conditions (Pinto-Gouveia et al., 2014; Ashworth et al., 2015), it appears that depression can perhaps be better accounted for by other psychosocial variables, such as MD. Notably, although the two groups differed on each psychosocial factor, it is difficult to determine how meaningful some differences are as many of the scales used do not provide severity indicators and as such, these results should be interpreted with caution.

Of particular note is the finding that although all variables were significantly correlated with depression, when all psychosocial factors were included in a regression model, only anxiety and MD emerged as the key predictors of depression. This supports the work of Gay and colleagues (2010), who found anxiety to be key in the development of depression in people with MS; this finding remained when taking into account the influence of alexithymia, functional status, and satisfaction with social support system. Taken together, the above findings support the contention that psychosocial factors such as anxiety, health anxiety, self-criticism, and self-compassion are currently missing in Arnett and colleagues' (2008) conceptualisation of depression in people with MS.

What is more, the key finding that MD mediated the relationship between each of the other psychosocial variables and depression further highlights that the model is missing key factors and suggests that a re-conceptualisation of depression in people with MS is warranted, such that MD is the underlying mechanism through which other factors exert (at least in part) their influence. Whilst this is the first study to investigate the role of MD in depression in people with MS, findings are in line with those reporting

the importance of similar constructs, such as learned helplessness, in predicting depression in people with MS (e.g. Shnek et al., 1995). Findings are also in line with those investigating other health conditions such as cancer (Howe et al., 2014) and chronic pain (Tang et al., 2010). It is therefore likely that the experience of MS, and its related symptoms (e.g. pain) impacts a person's sense of self and identity more deeply, over and above the 'awfulness' of the condition itself. It is this erosion of the self which influences whether factors such as being self-critical or feeling socially unsupported results in the experience of depression.

Certainly, the finding that MD fully mediated the relationship between perceptions of social support and depression can be understood by thinking about the meaning an individual places on that lack of social support. For example, an individual who feels that their MS has destroyed their sense of self may more readily interpret relationships and interactions negatively, thus predisposing them to the experience of depression. Relatedly, MD fully mediated the relationship between depression and health anxiety. Whilst hypervigilance, worry, and misappraisal of normal bodily sensations are core to the cognitive model of health anxiety (Salkovskis et al., 2002), Tang and colleagues (2010) have argued that similar processes result in MD in people experiencing chronic pain. They propose that MD may arise from an inflexible approach to problem-solving in which there is a cycle not only of hypervigilance and worry regarding pain symptoms, but also repeated failed attempts to control pain. As such, an individual experiencing pain (such as a person with MS) may become trapped in a loop of hypervigilance, worry, and the misappraisal that they are powerless against the continuation of pain. It is certainly plausible that this is the mechanism through which health anxiety leads to depression. Finally, MD was found to fully mediate the relationship between self-compassion and depression. Given that MD refers to a negative way of relating to the self, whilst self-compassion refers to a positive way of relating to the self, it appears logical that self-compassion can only buffer against depression under conditions of low MD. Thus, the cognitive processes inherent in MD appear key in exerting influence over the meaning placed upon a particular symptom or event and in the resulting level of

depression experienced. As such, MD may represent a transdiagnostic cognitive process, which may be amenable to change.

### **Limitations and future research**

This study had several key limitations. Notably, this study was cross-sectional and therefore does not enable conclusions to be drawn regarding whether depression was preceded by the various psychosocial symptoms, or whether they in fact followed the development of depression. Additionally, the present study did not control for a history of depression prior to developing MS. Thus, the sample may contain people who had experienced depression before the onset of MS-related sequelae, limiting the extent to which findings capture only MS-related depression. Longitudinal or experimental design studies would enable better understanding regarding the sequential relationship between the psychosocial variables and depression.

The lack of control group further limits findings, such that it is unknown whether results are unique to a MS population. Future research should therefore look to compare the present findings against alternative populations (e.g. non-clinical, or those with another physical health or neurological condition). Use of a control or comparison group would further enable more meaningful conclusions to be drawn regarding between-group differences on measures, particularly those that do not cite clinical threshold levels.

Although the subjective impact of MS symptoms was measured in the present study, objective severity of symptoms was not, leaving the potential for recall and reporting bias. Given that research indicates higher levels of depression in those with a greater severity of MS (Chwastiak et al., 2002), future research should look to control for MS severity, using the Expanded Disability Status Scale (Kurtzke, 1983), for example.

Additionally, the PHQ-9 was chosen as a brief screen measure for depression, validated for use in people with MS. Whilst research indicates no

superiority of any of the examined patient reported outcome measures in this population (e.g. PHQ-9; Beck depression inventory fast screen; Center for epidemiologic studies depression scale; Patient reported outcomes measurement information systems), the PHQ-9 was reported to be slightly more effective than the other above stated measures at identifying individuals with major depressive disorder when using the Youden Index (a statistic used to summarise the performance of a diagnostic test; Amtmann et al., 2015). However, no patient reported outcome measure was found to diagnose major depressive disorder as accurately as the Structured Clinical Interview for DSM-IV Disorders (SCID), administered via telephone. As such, future studies should consider using a more structured diagnostic assessment such as the SCID, in order to identify with better accuracy people with MS who are also experiencing depression.

What is more, it could be argued that scores on the depression measure (PHQ-9) could be influenced by somatic symptoms. For example, although a symptom of depression, the statement, 'feeling tired or having little energy' could also relate to fatigue, a common symptom of MS. Indeed, this could contribute to the observation that only 8.14% of participants reported currently experiencing depression, and yet 31.40% scored above the clinical threshold for depression using the PHQ-9 (of note, two of those reporting current depression did not score above the clinical threshold on the PHQ-9). Research by Sjonnesen and colleagues (2012) found no evidence to suggest that scores on the PHQ-9 are contaminated by participants reporting symptoms that are attributable to MS. Therefore, it could be argued that participants may lack awareness regarding their own mental state, perhaps attributing their symptoms to the experience of having MS, rather than considering comorbid depression. This may prevent people from seeking psychological support and act as a barrier to treatment.

A further research avenue pertains to the qualitative experience of people with MS; a qualitative extension of the present research, focusing on the experiences of those scoring at either end of the PHQ-9 scale would provide rich data regarding living and coping with MS, and how these experiences

may differ between those above and below the clinical threshold for depression. Finally, in light of previous research regarding the impact of relapses upon depression relapse (e.g. Chwastiak et al., 2002; Kalb, 2007; Moore et al., 2012), future research should explore whether the above results differ when comparing those with relapse-remitting MS and those with a progressive variant.

### **Clinical Implications**

Given the discrepancy between self-reported depression and PHQ-9 scores, MS nurses should consider routinely screening for the presence of depression in people with MS. This could lead to improved identification and therefore treatment of depression in people with MS. Additionally, clinicians should be aware of the factors that have been demonstrated to underpin depression in people with MS, and those that may buffer against it. For example, as anxiety and MD emerged as important predictors of depression, clinicians should consider that people may experience significant worry (e.g. about their levels of ability or their future), in addition to feeling 'defeated' by their MS, and as such, these may be a beneficial focus for therapy. This is particularly relevant in light of the finding that MD mediated, at least in part, the effects of each of the eight variables on depression. Training clinicians in the ways in which MD may manifest itself in a person with MS may further improve identification of those at risk of developing depression.

Whilst there is at yet no established treatment for MD, it is possible that a cognitive-behavioural approach focusing on the catastrophic thoughts and beliefs regarding the effects of MS (including pain) on a person's sense of identity. Challenging catastrophising beliefs and cognitive restructuring aims to improve a person's ability to recognise their own emotions and cognitions, and consider how best to act on them. This may give rise to a greater sense of control over their MS-related symptoms, and improvements in problem solving and coping, previously compromised by the development of MD. Furthermore, more balanced and realistic perceptions of themselves and their abilities in relation to their MS may be developed (rather than being defined by their MS).



## **Conclusions**

The present study supports existing research highlighting an association between various psychosocial factors and depression. Moreover, it offers initial evidence for the role of MD in mediating these relationships, indicating MD as a potential key focus for therapeutic work. Further exploration is warranted to determine the sequential relationships of the above findings, in addition to comparing these findings against other populations.

## References

- Aikens, J., Fischer, J., Namey, M., & Rudick, R. (1997). A replicated prospective investigation of life stress, coping, and depressive symptoms in multiple sclerosis. *Journal of behavioral medicine*, 20(5), 433-445.
- Allen, A. B., & Leary, M. R. (2010). Self-Compassion, stress, and coping. *Social and Personality Psychology Compass*, 4(2), 107-118.
- Amtmann, D., Bamer, A. M., Cook, K. F., Askew, R. L., Noonan, V. K., & Brockway, J. A. (2012). University of Washington self-efficacy scale: a new self-efficacy scale for people with disabilities. *Arch Phys Med Rehabil*, 93(10), 1757-1765. doi:10.1016/j.apmr.2012.05.001
- Amtmann, D., Kim, J., Chung, H., Bamer, A. M., Askew, R. L., Wu, S., ... & Johnson, K. L. (2014). Comparing CESD-10, PHQ-9, and PROMIS depression instruments in individuals with multiple sclerosis. *Rehabilitation psychology*, 59(2), 220.
- Arnett, P. A., Barwick, F. H., & Beeney, J. E. (2008). Depression in multiple sclerosis: review and theoretical proposal. *J Int Neuropsychol Soc*, 14(5), 691-724. doi:10.1017/s1355617708081174
- Arnstein, P., Caudill, M., Mandle, C. L., Norris, A., & Beasley, R. (1999). Self efficacy as a mediator of the relationship between pain intensity, disability and depression in chronic pain patients. *Pain*, 80(3), 483-491.
- Ashworth, F., Clarke, A., Jones, L., Jennings, C., & Longworth, C. (2015). An exploration of compassion focused therapy following acquired brain injury. *Psychology and Psychotherapy: Theory, Research and Practice*, 88(2), 143-162.
- Batterham, P. J., Christensen, H., & Cleave, A. L. (2013). Anxiety symptoms as precursors of major depression and suicidal ideation. *Depression and anxiety*, 30(10), 908-916.
- Boeije, H. R., Duijnste, M. S., Gryphonck, M. H., & Pool, A. (2002). Encountering the downward phase: biographical work in people with multiple sclerosis living at home. *Social Science & Medicine*, 55(6), 881-893.

- Chwastiak, L., Ehde, D. M., Gibbons, L. E., Sullivan, M., Bowen, J. D., & Kraft, G. H. (2002). Depressive symptoms and severity of illness in multiple sclerosis: epidemiologic study of a large community sample. *American Journal of Psychiatry*, 159(11), 1862-1868.
- Cleeland, C., & Ryan, K. (1994). Pain assessment: global use of the Brief Pain Inventory. *Annals of the Academy of Medicine, Singapore*, 23(2), 129-138.
- Cottrell, D., Kremenchutzky, M., Rice, G., Koopman, W., Hader, W., Baskerville, J., & Ebers, G. (1999). The natural history of multiple sclerosis: A geographically based study. *Brain*, 122(4), 625-639.
- Cutrona, C. E. R., D. W. (1987). The provisions of social relationships and adaptation to stress. . *Advances in Personal Relationships*, 1, 37-67.
- Dennison, L., Moss-Morris, R., & Chalder, T. (2009). A review of psychological correlates of adjustment in patients with multiple sclerosis. *Clinical Psychology Review*, 29(2), 141-153.
- Dunmore, E., Clark, D. M., & Ehlers, A. (2001). A prospective investigation of the role of cognitive factors in persistent posttraumatic stress disorder (PTSD) after physical or sexual assault. *Behaviour research and therapy*, 39(9), 1063-1084.
- Eccles, F. J., & Simpson, J. (2011). A review of the demographic, clinical and psychosocial correlates of perceived control in three chronic motor illnesses. *Disabil Rehabil*, 33(13-14), 1065-1088.
- Ehlers, A., Maercker, A., & Boos, A. (2000). Posttraumatic stress disorder following political imprisonment: The role of mental defeat, alienation, and perceived permanent change. *Journal of abnormal psychology*, 109(1), 45.
- Field, A. (2005). *Discovering statistics with SPSS*: London: Sage.
- Gay, M. C., Vrignaud, P., Garitte, C., & Meunier, C. (2010). Predictors of depression in multiple sclerosis patients. *Acta Neurologica Scandinavica*, 121(3), 161-170.
- Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment*, 15(3), 199-208.  
doi:10.1192/apt.bp.107.005264

- Gilbert, P., Clarke, M., Hempel, S., Miles, J., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology*, 43(1), 31-50.
- Grav, S., Hellzèn, O., Romild, U., & Stordal, E. (2012). Association between social support and depression in the general population: the HUNT study, a cross-sectional survey. *J Clin Nurs*, 21(1-2), 111-120.
- Grozdziej, A. (2015). *The influence of treatment type and psychological factors on fear of recurrence, distress, and health behaviours amongst breast cancer survivors*. (Unpublished doctoral dissertation.), University of Bath, United Kingdom.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*: Guilford Press.
- Hayter, A. L., Salkovskis, P. M., Silber, E., & Morris, R. G. (2016). The impact of health anxiety in patients with relapsing remitting multiple sclerosis: Misperception, misattribution and quality of life. *British Journal of Clinical Psychology*.
- Hobart, J., Lamping, D., Fitzpatrick, R., Riazi, A., & Thompson, A. (2001). The multiple sclerosis impact scale (MSIS-29) a new patient-based outcome measure. *Brain*, 124(5), 962-973.
- Holm, S. (1979). A simple sequential rejective method procedure. *Scandinavian Journal of Statistics*, 6, 65-70.
- Howe, E., Lagrdahl, A., & Salkovskis, P. M. (2014). *Health anxiety in cancer patients in remission: A cross-sectional study*. (Unpublished doctoral dissertation.), University of Bath, United Kingdom.
- Jongen, P. J., Ruimschotel, R., Heerings, M., Hussaarts, A., Duyverman, L., van der Zande, A., . . . Lemmens, W. (2014). Improved self-efficacy in persons with relapsing remitting multiple sclerosis after an intensive social cognitive wellness program with participation of support partners: a 6-months observational study. *Health and quality of life outcomes*, 12(1), 1.
- Kalb, R. (2007). The emotional and psychological impact of multiple sclerosis relapses. *Journal of the neurological sciences*, 256, S29-S33.

- Kehler, M. D., & Hadjistavropoulos, H. D. (2009). Is health anxiety a significant problem for individuals with multiple sclerosis? *Journal of behavioral medicine*, 32(2), 150-161.
- Korostil, M., & Feinstein, A. (2007). Anxiety disorders and their clinical correlates in multiple sclerosis patients. *Multiple sclerosis*, 13(1), 67-72.
- Kroenke, K., Wu, J., Bair, M. J., Krebs, E. E., Damush, T. M., & Tu, W. (2011). Reciprocal relationship between pain and depression: a 12-month longitudinal analysis in primary care. *J Pain*, 12(9), 964-973. doi:10.1016/j.jpain.2011.03.003
- Kurtzke, J. F. (1983). Rating neurologic impairment in multiple sclerosis an expanded disability status scale (EDSS). *Neurology*, 33(11), 1444-1444.
- Lublin, F. D., & Reingold, S. C. (1996). Defining the clinical course of multiple sclerosis results of an international survey. *Neurology*, 46(4), 907-911.
- Mohr, D. C., & Genain, C. (2004). Social support as a buffer in the relationship between treatment for depression and T-cell production of interferon gamma in patients with multiple sclerosis. *Journal of Psychosomatic Research*, 57(2), 155-158.
- Moore, P., Hirst, C., Harding, K. E., Clarkson, H., Pickersgill, T. P., & Robertson, N. P. (2012). Multiple sclerosis relapses and depression. *Journal of Psychosomatic Research*, 73(4), 272-276.
- Müller, R., Peter, C., Cieza, A., & Geyh, S. (2012). The role of social support and social skills in people with spinal cord injury—a systematic review of the literature. *Spinal Cord*, 50(2), 94-106.
- Multiple Sclerosis International Foundation. Introduction to symptoms. Retrieved from <http://www.msif.org/about-ms/>
- Multiple Sclerosis Society. (2014). MS in the UK. Retrieved from <http://www.mssociety.org.uk/ms-resources/ms-uk>
- Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality and individual differences*, 32(2), 337-348.
- Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and identity*, 2(3), 223-250.

- Noonan, C. W., Kathman, S. J., & White, M. C. (2002). Prevalence estimates for MS in the United States and evidence of an increasing trend for women. *Neurology*, 58(1), 136-138.
- Osborne, T. L., Raichle, K. A., Jensen, M. P., Ehde, D. M., & Kraft, G. (2006). The reliability and validity of pain interference measures in persons with multiple sclerosis. *Journal of pain and symptom management*, 32(3), 217-229.
- Pakenham, K. I. (1999). Adjustment to multiple sclerosis: application of a stress and coping model. *Health Psychol*, 18(4), 383-392.
- Patten, S. B., Beck, C. A., Williams, J. V., Barbui, C., & Metz, L. M. (2003). Major depression in multiple sclerosis: a population-based perspective. *Neurology*, 61(11), 1524-1527.
- Pinto-Gouveia, J., Duarte, C., Matos, M., & Fráguas, S. (2014). The protective role of self-compassion in relation to psychopathology symptoms and quality of life in chronic and in cancer patients. *Clinical Psychology & Psychotherapy*, 21(4), 311-323.
- Pittock, S. J., McClelland, R. L., Mayr, W. T., Jorgensen, N. W., Weinshenker, B. G., Noseworthy, J., & Rodriguez, M. (2004). Clinical implications of benign multiple sclerosis: A 20-year population-based follow-up study. *Annals of neurology*, 56(2), 303-306.
- Riazi, A., Hobart, J., Lamping, D., Fitzpatrick, R., & Thompson, A. (2002). Multiple Sclerosis Impact Scale (MSIS-29): reliability and validity in hospital based samples. *Journal of Neurology, Neurosurgery & Psychiatry*, 73(6), 701-704.
- Salkovskis, P. M., Rimes, K. A., Warwick, H., & Clark, D. (2002). The Health Anxiety Inventory: development and validation of scales for the measurement of health anxiety and hypochondriasis. *Psychological medicine*, 32(05), 843-853.
- Schmitt, M. M., Goverover, Y., DeLuca, J., & Chiaravalloti, N. (2014). Self-efficacy as a predictor of self-reported physical, cognitive, and social functioning in multiple sclerosis. *Rehabilitation Psychology*, 59(1), 27.
- Schwartz, C. E., Coulthard-Morris, L., Zeng, Q., & Retzlaff, P. (1996). Measuring self-efficacy in people with multiple sclerosis: a validation

- study. *Archives of physical medicine and rehabilitation*, 77(4), 394-398.
- Seel, R. T., Macciocchi, S., & Kreutzer, J. S. (2010). Clinical considerations for the diagnosis of major depression after moderate to severe TBI. *The Journal of head trauma rehabilitation*, 25(2), 99-112.
- Seivewright, H., Salkovskis, P., Green, J., Mullan, N., Behr, G., Carlin, E., . . . Tyrer, P. (2004). Prevalence and service implications of health anxiety in genitourinary medicine clinics. *International journal of STD & AIDS*, 15(8), 519-522.
- Shields, C., & Ownsworth, T. (2013). An integration of third wave cognitive behavioural interventions following stroke: a case study. *Neuro-Disability and Psychotherapy*, 1(1), 39-69.
- Shnek, Z. M., Foley, F. W., LaRocca, N. G., Smith, C. R., & Halper, J. (1995). Psychological predictors of depression in multiple sclerosis. *Neurorehabilitation and Neural Repair*, 9(1), 15-23.
- Siebert, R., & Abernethy, D. (2005). Depression in multiple sclerosis: a review. *Journal of Neurology, Neurosurgery & Psychiatry*, 76(4), 469-475.
- Simpson, R., Booth, J., Lawrence, M., Byrne, S., Mair, F., & Mercer, S. (2014). Mindfulness based interventions in multiple sclerosis-a systematic review. *BMC neurology*, 14(1), 1.
- Sjonnesen, K., Berzins, S., Fiest, K. M., Bulloch, A. G., Metz, L. M., Thombs, B. D., & Patten, S. B. (2012). Evaluation of the 9-Item Patient Health Questionnaire (PHQ-9) as an Assessment Instrument for Symptoms of Depression in Patients with Multiple Sclerosis. *Postgraduate medicine*, 124(5), 69-77.
- Smith, J. A., & Osborn, M. (2007). Pain as an assault on the self: An interpretative phenomenological analysis of the psychological impact of chronic benign low back pain. *Psychology and health*, 22(5), 517-534.
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, 166(10), 1092-1097. Retrieved from <http://archinte.jamanetwork.com/article.aspx?articleid=410326>

- Spitzer, R. L., Kroenke, K., Williams, J. B., & Patient Health Questionnaire Primary Care Study Group. (1999). Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. *Jama*, 282(18), 1737-1744.
- Starr, L. R., & Davila, J. (2012). Responding to anxiety with rumination and hopelessness: Mechanism of anxiety-depression symptom co-occurrence? *Cognitive therapy and research*, 36(4), 321-337.
- Steinman, L. (2014). Immunology of Relapse and Remission in Multiple Sclerosis. *Annual Review of Immunology*, 32(1), 257-281.  
doi:doi:10.1146/annurev-immunol-032713-120227
- Suh, Y., Weikert, M., Dlugonski, D., Sandroff, B., & Motl, R. W. (2012). Physical activity, social support, and depression: possible independent and indirect associations in persons with multiple sclerosis. *Psychology, health & medicine*, 17(2), 196-206.
- Tang, N. K., Goodchild, C. E., Hester, J., & Salkovskis, P. M. (2010). Mental defeat is linked to interference, distress and disability in chronic pain. *Pain*, 149(3), 547-554.
- Tang, N. K., Salkovskis, P. M., & Hanna, M. (2007). Mental defeat in chronic pain: initial exploration of the concept. *The Clinical journal of pain*, 23(3), 222-232.
- Tang, N. K., Shum, S. H., Leung, P. W., Chen, P. P., & Salkovskis, P. M. (2013). Mental defeat predicts distress and disability in hong kong chinese with chronic pain. *The Clinical journal of pain*, 29(9), 830-836.
- Terrill, A. L., Hartoonian, N., Beier, M., Salem, R., & Alschuler, K. (2014). The GAD-7 as a Tool for Measuring Generalized Anxiety in Multiple Sclerosis. *International Journal of MS Care*.



## **Executive Summary**

Laura Brown  
laura.brown2@bath.ac.uk

Word Count: 674

Field Supervisor: Leon Dysch (Leon.Dysch@sirona-cic.org.uk)  
Internal Supervisor: James Gregory (J.D.Gregory@bath.ac.uk)

Date: 15<sup>th</sup> April 2016

## **Psychosocial factors underpinning depression in Multiple Sclerosis: Executive summary**

### **Background**

Multiple sclerosis (MS) is a neurological condition affecting an estimated 1 in 600 people in the UK. Depression is a key concern in people with MS, with up to 50% experiencing at least one episode of major depression. However, there is limited research into the mechanisms underpinning and maintaining depression in people with MS. Therefore, the present study aimed to investigate the constructs of social support, self-efficacy, self-compassion, self-criticism, anxiety, and health anxiety in relation to depression in people with MS. It also aimed to determine whether a mental defeat, a recently identified cognitive phenomenon, mediated the associations between the above stated constructs and depression.

### **Method**

The present study included 86 people with a clinical diagnosis of MS, recruited from the caseloads of MS nurses in a Community Neuro and Stroke Service and an MS therapy centre. Participants completed a questionnaire booklet containing a range of measures to assess levels of the above stated psychosocial constructs.

### **Results**

Results revealed that high levels of pain interference, perceived symptoms severity, anxiety, self-criticism, mental defeat, and health anxiety, and low levels of self-efficacy, self-compassion, and perceived social support, were associated with increased depression symptoms. There was also a significant difference on each of the examined variables between those participants meeting the clinical threshold for depression and those who did not. That is, those meeting the clinical threshold for depression reported significantly higher scores of pain interference, perceived symptom severity, anxiety, health anxiety, self-criticism, and mental defeat than those who did not. They also scored significantly lower than their counterparts on measures of self-compassion, self-efficacy, and perceived social support. However,

when examining the relative contribution of each of the above variables in predicting depression, only anxiety and mental defeat emerged as significant predictors of depression.

Finally, mental defeat was found to mediate the relationship between each variable and depression. This indicates that mental defeat may be the underlying mechanism through which the other factors exert (at least in part) their influence on depression. Of note, mental defeat fully mediated the relationship between health anxiety and depression, self-compassion and depression, and perceived social support and depression.

### **Research implications**

- Future research should look to compare the present findings against alternative populations (e.g. non-clinical, or those with another physical health or neurological condition).
- Use of a control or comparison group would enable more meaningful conclusions to be drawn regarding between-group differences on measures, particularly those that do not provide clinical threshold levels.
- Longitudinal or experimental design studies would enable better understanding regarding the sequential relationship between the psychosocial variables examined and depression.
- A qualitative extension of the present research, focusing on the experiences of those scoring high or low on the depression scale would provide rich data regarding living and coping with MS, and how these experiences may differ between those scoring above and below the clinical threshold for depression.

### **Clinical implications**

- MS nurses should consider routinely screening for the presence of depression in people with MS. This could lead to improved identification and therefore treatment of depression in people with MS.

- As anxiety and mental defeat emerged as important predictors of depression, clinicians should also consider that people may experience significant worry (e.g. about their levels of ability or their future), in addition to feeling 'defeated' by their MS, and as such, these may be a beneficial focus for therapy.
- The finding that mental defeat mediated, at least in part, the effects of each of the eight variables on depression suggests that mental defeat may represent a transdiagnostic cognitive process, which may be amenable to change.
- Cognitive-behavioural therapies may help to alter the way people attend and relate to themselves and their MS symptoms, and reduce the self-critical thoughts associated with mental defeat.

## **Conclusions**

The present study supports existing research highlighting an association between various psychosocial factors and depression. Moreover, it offers initial evidence for the role of mental defeat in mediating these relationships, indicating mental defeat as a potential key focus for therapeutic work. However, further research is needed.

## **Connecting Narrative**

Laura Brown  
laura.brown2@bath.ac.uk

Word Count: 2861

Supervisor: Maria Loades (M.E.Loades@bath.ac.uk)

Date: 30<sup>th</sup> March 2016

## **Connecting Narrative**

This connecting narrative provides a reflective account of the processes involved in each of the research components presented in this portfolio, in addition to the case studies completed during training. The narrative is concluded by considering my future role in conducting research, as a qualified clinical psychologist.

### **Critical review of the literature**

Prior to commencing on the Bath clinical psychology training programme, I had a keen interest in perinatal mental health and saw my future career in this area. However, I soon learnt that despite National Institute for Health and Care Excellence (NICE) guidance, psychological provision into this area is actually very limited, with a dominance of psychiatry rather than psychology. This discovery surprised me, particularly in light of evidence which indicates a long-lasting negative impact on the infant if parent-infant attachment and interaction difficulties are not addressed. I felt sure that psychological and therapeutic provision would be necessary over and above medication to prevent these long-lasting effects. As such, I was determined to carry out a literature review into the effectiveness of therapeutic support in parents who are at risk of experiencing attachment or interaction difficulties with their infant, thereby putting their infant at risk of future negative outcomes.

An initial search of the literature revealed video-feedback as an increasingly used intervention in such a population and sparked a chain of thought which considered whether, if this intervention proved effective in reducing both the immediate and long-term consequences of parent-infant interaction problems, it may be a cost-effective intervention that a range of services (from primary care to perinatal inpatient units) could utilise. Given the rapidly growing literature regarding the use of video-feedback interventions, the previous review (conducted in 2008) did not cover much of the more recent research, nor did it differentiate between populations who received the intervention because of concerns regarding parent risk factors (e.g. parenting concerns, parental insecure attachment status) and those who received the

intervention due to concerns regarding the child (e.g. infant born at very low birth weight, infant born deaf). I felt that the intervention may target slightly different processes in these two populations and that if my review were to be of clinical relevance to adult services, particularly to perinatal mental health services, there needed to be a specific focus on the effectiveness of those interventions aimed at targeting interaction difficulties in families for whom there were existing parenting concerns.

Whilst I did not find it difficult to decide on a topic area and question for my review of the literature, I found it somewhat more of a challenge to synthesise the existing research. This was particularly challenging given the variation in outcomes and outcome measures employed by the different studies. Although I have no prior experience of writing a systematic literature review, I carried out this process largely independently. This meant that I spent rather a lot of time working out the most appropriate structure for the review and considering how best to organise a rather large number of studies without confusing the reader. If I conduct systematic reviews in future, I feel that further discussions with colleagues and supervisors would be beneficial in ensuring a coherent synthesis with clear clinical implications.

### **Service improvement project**

The idea for my service improvement project arose during my very first placement on the course. Similar to my surprise at the lack of psychological input into perinatal services (which led to the development of my systematic literature review), I also found it surprising to realise how little psychological provision there was into the acute adult inpatient hospital. The 88 bed hospital, comprising four admission wards, an intensive care psychiatric unit, and a low-secure unit is staffed by two part-time clinical psychologists. Each of the wards and unit holds a weekly multi-disciplinary team meeting lasting a full morning; whilst attendance from psychology at these meetings is key to ensure a psychological perspective in a setting dominated by the medical model, this leaves very little time for the psychologists to offer support to the patients themselves, who then have to rely on medication. The hospital psychologists endeavoured to hold psychological coping skills groups in an

attempt to support as many patients as possible. However, such groups were usually held away from the wards, meaning that many patients had difficulties attending.

Through discussions with the hospital psychologists regarding the need for increased psychological provision despite very limited resources, the idea of developing a guided self-help psychological coping skills resource for patients arose. In my first year of training I somewhat naively began to develop a resource and consider ways in which to evaluate it – using the help of the ward staff who would (I assumed) be using the resource with patients. Following a relatively straightforward process of approval by both the University Ethics Committee and the Trust's Research and Development department, I trained a number of the staff in the resource and discussed with them the procedures for collecting data on the resource's effectiveness. It was agreed by the ward manager that the ward would take responsibility for training the remainder of the staff. Therefore, I left the hospital feeling confident that all the necessary procedures were in place and looked forward to receiving the data.

However, several months later the ward had been unable to implement the resource and the ward manager cited the amount of research measures that staff were required to administer with patients as the key barrier. After discussions with the ward manager, the hospital psychologist, and my project supervisor at the time, the research measures were significantly streamlined. Again however, several months later the resource had still not been implemented, again as a result of staff difficulties surrounding the amount of research-related paperwork they were required to go through with patients. Further discussions with one of the hospital psychologists led to the planned implementation of support to the ward staff, by way of additional presence of the psychologist on the ward, as well as an assistant psychologist to carry out the research aspects of the project. Unfortunately, various difficulties meant that these additional levels of support did not come to fruition and so collecting consent and data remained the responsibility of the ward staff.



Looking back on this experience two years on and having gained additional insight into the pressures and priorities of nursing staff, I feel that I could have better managed my original expectations of the ward team. Additionally, although I did ask for staff feedback at the training stage regarding their perceptions of feasibility regarding the process (using the resource with patients and completing the research-related aspects), I did not involve ward staff in the actual development of the project. Staff, and service user involvement, may have resulted in greater success of this part of the service improvement project.

As a result of these difficulties in data collection, and following discussions with Dr Maria Loades, my new supervisor on the project, the orientation of this project shifted to examining the barriers to implementing psychological research and therapy in an acute inpatient setting. Arguably, results of the final project have greater clinical applications to a broader audience (i.e. not service specific); however, there is still some way to go to overcome the barriers highlighted by the project.

### **Main research project**

Unlike my previous two projects, deciding upon a topic for my main research project was significantly more challenging. Prior to training, my key areas of interest were child and adolescent mental health and eating disorders, so my initial thoughts were to carry out a project in one of these areas. However, I already had experience in the field of eating disorders as an assistant psychologist prior to training and knew that one of my core placements would provide experience in child and adolescent mental health, and as such, I was keen to broaden my areas of experience and carry out a piece of research in an area that did not have existing knowledge. However, what this area was I had no idea.

It was during a teaching day on neurological conditions that I first considered carrying out my research project on multiple sclerosis (MS). Dr Leon Dysch had some existing ideas regarding possible research projects and I was

happy to be guided by his expertise, relieved to finally have a direction for my main project.

The project went through a long phase of development and amendment to become the final piece of research presented in this portfolio. Leon was interested in exploring the factors that might contribute to an increased prevalence of depression in people with MS, particularly with regards to the qualitative experiences of those with children – Leon cited anecdotal evidence that those with children experienced higher levels of shame, self-criticism and (perhaps resultant) depression, likely as a result of the impact of MS on family roles and responsibilities. As such, we decided to explore the link between shame and self-criticism in people with MS; it was at this point that Dr Andrew Medley came on board as project supervisor. Initial plans for the research included a mood induction design (to determine whether those experiencing higher levels of shame and lower levels of self-compassion will exhibit higher cognitive reactivity and be more susceptible to experiencing depressed mood), as well as qualitative interviews to build on quantitative questionnaire responses related to the experience of shame, self-criticism, self-compassion, and depression, and their relationship to changing family roles.

When Andrew left the programme, Dr James Gregory became project supervisor and the research developed further. James brought a pragmatic attitude to the project and encouraged me to refine the procedure such that there was a coherent theoretical grounding to the research. The final research method involved asking people with MS to complete a compilation of assessment measures, each tied to existing theory or research surrounding the mechanisms underpinning depression in MS.

James encouraged me to gain feedback on the research documents from people with personal experience of MS prior to seeking ethical approval and although it was a lengthy process to find volunteers to comment on the documents (i.e. meeting with an MS therapy centre, discussing the project, asking for their support in asking their members for feedback, and then

gathering the feedback), it was an extremely valuable experience. I asked both people with a diagnosis of MS and the manager of a MS therapy centre to comment on the information contained within the information sheet and consent form, as well as their perspectives on the feasibility of completing the questionnaire booklet without fatiguing. Given the helpful feedback I received, this has further encouraged me to more fully involve people with personal experience in the development of research in the future.

The next stage of the process was to gain NHS ethical approval, a process that caused much anxiety and took a great deal of time. My initial application went via the proportionate review panel and was given an unfavourable opinion. This was perhaps the most significant knock-back I had experienced during training and I felt deflated and upset, not least because some of the concerns raised by the panel could have been easily addressed had I had the opportunity to discuss these with them (for example, the panel overlooked a document). My initial response was to contest the unfavourable opinion. I began this procedure but upon reflection, felt that this action was driven by emotion and as such, followed the advice of someone from the ethics committee and decided to submit a new application via a full panel review. Having never completed an application through the Integrated Research Application System (IRAS) before, I was fazed by the need to complete a new application, ensuring that I adequately addressed all of the panel's previous concerns. It was my uncertainty and anxiety surrounding the procedures of IRAS that delayed my re-submission, followed by a long wait for the new application to go to the ethics panel. Following minor amendments, I was able to quickly obtain University ethical approval and Trust Research and Development approval, and begin collecting data for my research project.

Recruiting participants was, surprisingly, the least problematic process of the entire project. I was overwhelmed by the amount of responses I received and by the positive feedback I received from participants. Addressing risk reported by participants in their questionnaires did cause a significant level of anxiety and highlighted that I had not adequately considered this in my

protocol. However, this was managed through supervision with both James and Leon. A further concern arose when one person received a request to participate and became extremely concerned that their confidentiality had been breached. Whilst Leon dealt with this issue within his service, I was extremely worried about what this complaint might lead to, despite having the appropriate ethical approval. Given that this person had not consented to participating in the research, I remain unaware as to who they are or what the status of their complaint is now. It took time and many conversations during supervision to sit with this uncertainty and trust that it is being/has been resolved by the appropriate people within the service.

Once I had quickly achieved the required number of questionnaire responses, the next challenge was to clean and analyse the data. Prior to this project, I would not have felt data analysis in SPSS to be a problem. However, this project highlighted significant gaps in my statistical knowledge and I had to conduct extensive reading and consult statisticians in order to complete the analysis.

I will take away several key learning points from completing this research project. First, I have learnt how important it is to take adequate time to develop a research idea grounded in theory and not to be overly swayed by other people's views at the expense of a solid, coherent, research question; in its early stages, this project ran the risk of becoming too unwieldy and less theoretically and empirically grounded, as a result of my anxieties to build a project and combine a multitude of other people's ideas, for fear of being unable to develop my own in time. Second, I will remember the need to consider aspects such as risk and how best to manage this in more detail and made explicit in my protocol (specifically, what threshold of risk I am prepared to accept and who I will discuss this with). Third, whilst I feel that completing an IRAS application will be far less daunting the next time I need to complete one, I am now aware of how lengthy a process this can be and bear in mind that the panel may be more used to reviewing medical research applications and may therefore apply a similar stringent structure to psychological research.

### **Case studies**

I found the process of planning and writing case studies really helpful in guiding my thinking about a piece of work and subsequently, in developing my professional competencies. Certainly, I feel as though I spent more time formulating and considering theory-practice links in those pieces of work I chose to write up as case studies (although I endeavoured to apply the same consideration to all my pieces of work!). Whilst I have not published any of my case studies, I am considering submitting my first (from my working age adults placement) for publication. This is because it discusses the treatment of social anxiety in the context of a rare health condition and the use of CBT techniques implemented creatively. As such, I feel it would be a valuable contribution to the literature.

A key challenge in conducting single-case experimental design studies related to the collection of multiple baseline measures. Whilst in many services, this should be feasible given that most have waiting lists, I have been surprised by how little outcome measures are used in current clinical practice within the NHS. Training has instilled in me the value of collecting baseline and session-by-session outcome measures and as such, collecting these for each client I work with and encouraging colleagues to do the same is certainly something I plan to do in my new role, wherever that may be.

### **Plans for future involvement in research**

Academic and research elements of training have cemented my belief in the clinical importance of conducting research, and this is something I will endeavour to continue throughout my career. However, discussions with qualified clinical psychologists have suggested that in the NHS, time for research tends to be something that must be fought for and negotiated with managers, rather than being automatically granted. This is something I plan to be mindful of when beginning my career as a newly qualified psychologist – ensuring that research is an acknowledged part of my role. I anticipate that in the first instance, this will be through single-case experimental design studies and smaller-scale service-related research, given that the prospect of

conducting another main research project whilst undertaking a full-time position is currently frightening! I am hopeful that once I settle into my qualified career and gain expertise in my chosen field, this sense of fear will subside, I will be better aware of the key research questions that need to be answered, and can re-ignite the motivation to answer them!

# Emotional Coping Skills Workbook

Learning how to manage overwhelming emotions



xxx Hospital

## Contents

Introduction .....	1
Attending to General Wellbeing .....	2
Distraction .....	5
Self-soothing .....	6
Safe Place Visualisation .....	8
Mindfulness .....	10
Increasing Positive Experiences .....	12
Acting Opposite .....	14
Useful Contacts .....	17



## Introduction

Throughout our lives, we all experience difficult emotions. This may be in response to a negative life event, or as a result of the way we might feel about ourselves. At times, these emotions may feel overwhelming and we may struggle to manage them without losing control or acting destructively. We may also try to avoid our emotions, out of fear of getting swept away by them or worries about how we might react. However, trying to suppress our emotions – to keep a lid on them in order to stop us from experiencing them – has the opposite effect; the more we try to prevent our emotions, the more overwhelming they can become. Even positive emotions can sometimes feel overwhelming.

This workbook aims to teach you key skills which have been proven to help people to better manage their emotions. The skills contained in this workbook are drawn from Dialectical Behaviour Therapy (DBT), an extremely effective approach to increasing a person's ability to cope with distressing or overwhelming emotions.

The skills in this workbook can be really effective, so long as you take the time to practice them. You can do this by yourself, or you can ask a member of staff on the ward to work through them with you.

Perhaps you could take a moment now to think about the ways that you usually react to difficult emotions. Use the space below to write down three ways you react that might not be so helpful and that you would like to replace with better ways of coping, with the help of the skills you will learn in this workbook.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## **Attending to General Wellbeing**

One of the first things we can begin to do is to reduce our vulnerability to overwhelming emotions. We can do this by taking better care of ourselves, including improving our diet, sleep, and exercise routine. By improving our physical wellbeing we automatically begin to reduce our emotional reactivity. Some of the information below may seem obvious, but at times of increased distress we often forget to put it into practice.

### **Diet**

Your body needs the nutrients in food to function properly. Both the type and amount of food you eat has a direct impact on how you feel, both physically and emotionally. For example, eating food with a lot of fat in them (i.e. pastries) can initially make you feel satisfied, but too much and you may start to feel sluggish. Foods that are high in sugar (i.e. sweets, fizzy drinks) can give you an energy boost, but this will wear off and can leave you feeling tired or even depressed. These types of food are often the ones we turn to when we feel overwhelmed (i.e. we comfort eat). Some people comfort eat because the food makes them feel emotionally calm or numb, but it is important to remember that this only lasts a short time and can lead to weight gain and health problems, which are likely to increase negative emotions.

Eating too little, too, can have unhealthy consequences as our bodies are not getting the nutrients they need. This can lead to feelings of tiredness, dizziness and also fainting. Just as some people over-eat in an attempt to control their emotions, other people may under-eat. Under-eating can be an attempt at self-control, enabling people who may feel that their lives are out of control some sense of power. However, again this sense of control is short-lived and negative and even-life threatening health consequences can result.

It is important to be aware if you have a tendency to over- or under-eat in response to emotions and to make sure you eat a moderate amount of a wide variety of foods, including fruit, vegetables, protein and carbohydrates. The 'Change 4 Life' campaign has a lot of information on its website if you want to find out more about creating a healthy balanced diet:  
<http://www.nhs.uk/Change4Life/Pages/healthy-eating.aspx>

### **Sleep**

Getting a good night's sleep is very important for your wellbeing. People often worry about not getting enough sleep but whilst the average adult needs approximately 7 or 8 hours of sleep per night, the actual amount that you need varies depending on your age and health. It is more important to

focus on getting the right amount of good-quality sleep for you. If this is something you do tend to worry about, keeping a note of how many hours of sleep you get and how you feel the next day can help you to get a better picture of how much sleep you really need.

Tips to getting a good night's sleep:

- Avoid caffeine, alcohol, smoking and non-prescribed drugs for at least 4 hours before going to sleep.
- Don't exercise or eat a heavy meal too close to bedtime.
- Don't nap during the day, as this will make you less tired at night.
- Take time to wind down before bedtime – avoid stimulating bright lights, including TV just before bedtime. Perhaps have a bath or a warm milky drink.
- Go to bed at the same time every night and wake up at the same time every morning. Creating a regular sleep pattern helps tune your body.
- Only use your bed for sleeping and sex, not for reading, watching TV, working etc. This way your body will learn to associate bed with sleep.
- Create a comfortable sleeping environment. Keep the temperature cool and comfortable, keep your room as dark as possible (consider an eye mask), minimise noise (consider ear plugs).
- Don't clock watch (perhaps face your clock away from you).
- Don't worry about things in bed. Perhaps keep a pen and paper by your bed to write down any worries. That way, you know you are able to return to them in the morning and so can focus on sleep.
- If you don't fall asleep within approximately 30 minutes, get out of bed and do a relaxing activity until you feel tired enough to go back to bed. Lying in bed is likely to make you feel more wound up and find it even harder to sleep.

## **Exercise**

Research shows that regular activity can make us feel energised, give us a sense of achievement and has even been shown effective in the treatment of depression. Not only this, but exercise can serve as a helpful distraction from our overwhelming emotions.

Engaging in at least 20 minutes of moderate exercise every day can help to improve both our physical and mental wellbeing, thus helping to lower our vulnerability to overwhelming emotions. Activities can include: walking,

jogging, cycling, swimming, dancing. Even some vigorous housework can increase your heart rate!

If you have not exercised for a little while, you may need to start small and work up to more prolonged or vigorous exercise. This may also be the case if you have physical limitations. Before engaging in activity, check with one of the hospital physiotherapists, as they will be able to advise you on appropriate exercise plans.

### **Other ways to take care of yourself**

- Avoid non-prescription drugs (including alcohol, which is a depressant).
- Treat physical illness and pain. Physical and emotional feelings are directly connected, and experiencing pain greatly increases our vulnerability to overwhelming emotions. Seek advice from medical professionals at times of physical illness or pain.
- Try to do at least one thing every day that makes you feel competent (able) and in control.

## Distraction

Distraction is an important technique to enable you to tolerate emotions that may feel overwhelming. Distraction skills can temporarily stop you from thinking about the situation that is causing you emotional pain, thus giving you time to find an appropriate, helpful coping response (rather than an unhelpful or destructive response that may be your automatic or gut response to an upsetting situation).

Distraction is not the same as avoidance. In distraction, there is still the intention to deal with the distressing situation, once your emotions have calmed down to a tolerable level.

Here is a list of just some possible distraction activities. There is space at the bottom to add your own suggestions. If you try one that works particularly well, you might like to circle it to remind you.

Call/text/visit a friend	Eat/drink something	Count backwards from 100 in 7s
Go for a walk	Take a shower/bath	If it's night-time, go to sleep
Exercise	Write/draw something	Do something for someone else
Talk to ward staff	Look at photographs	Think of a positive memory
Read a book	Visualise a safe place	Do the chores/housework
Watch TV/a film	Do a puzzle/crossword	Think of someone you care about
Listen to music/sing	Cook something nice	List things you like about yourself
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Sometimes when people experience overwhelming emotions, they have the urge to harm themselves. If this happens to you, try the below techniques, in addition to the ones above.

- Talk to ward staff
- Call a helpline (see the end of this workbook)
- Take a cold bath or shower
- Hold an ice cube in your hand
- Snap a rubber band against your wrist
- Write down how you feel and then tear it up
- Throw rolled-up socks or a pillow against the wall

## Self-Soothing

Similarly to distraction, self-soothing skills are designed to give you some relief from your overwhelming emotions, such that you feel better able to figure out how best to face the difficult situation. They are also very good for grounding yourself at times of extreme distress.

We can soothe ourselves using any of our five senses:

### With Smell

Our sense of smell is very closely linked with memory, so identifying smells that make you feel good is important. Some ideas are listed below:

- Use your favourite perfume/aftershave
- Go somewhere that has smell you like – e.g. a bakery
- Cook something that has a pleasing smell to you
- Go for a walk outside where you can breathe in the smells of nature - e.g. cut grass, woodland, flowers
- Go outside after rainfall
- Hug someone whose smell makes you feel calm and happy
- Use scented oils or smelling salts (you might like to carry one of these around with you)
- Other ideas:

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### With Sight

- Carry with you a picture or photo of someone you care about or of a place that is meaningful to you
- Make a collage of images you like, cut out from magazines
- Look at nature around you, the clouds in the sky or the stars at night
- Buy a pretty flower or plant
- Wear a pretty piece of jewellery
- Other ideas:

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## With Hearing

- Listen to soothing music or sounds (such as waves)
- Listen to an audio book or a calming TV programme or radio show
- Listen to the sounds of nature outside
- Listen to a relaxation exercise (you can find these online, or ask a member of the ward staff to read you the safe place visualisation or mindfulness script contained in this workbook)
- Other ideas:

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## With Taste

- Eat your favourite meal
- Have a soothing drink, such as a herbal tea or hot chocolate
- Treat yourself to a dessert or sweet
- Carry chewing gum or mints with you
- Have a juicy piece of fruit
- Really take time to really taste the food you eat
- Other ideas:

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## With Touch

- Take a shower or bubble bath, feel the water on your skin
- Carry something soft or velvety with you, to touch if you need to
- Wear clothes that soothe you, such as your favourite jumper, silky blouse, or woolly scarf.
- Hug someone, a cuddly toy, or yourself
- Take time to experience whatever you are touching, noticing touch that is soothing
- Other ideas:

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## Safe Place Visualisation

This technique can be very powerful to reduce distress and increase relaxation. It involves practicing creating a peaceful scene in your mind that you can return to at times of overwhelming emotion.

At first, you may find it helpful if a member of the ward staff reads the script aloud for you to follow with your eyes closed. Alternatively, you can record yourself reading through the script and play it back to yourself. In time, you will then be able to recall your safe place in your mind without the need for the script.

Before you begin the exercise, think of a place that makes you feel safe and relaxed. This place can either be real, or imagined, or a combination of the two. Some people think of a beach, a room in your home, or a cloud floating in the sky. The exercise will guide you through exploring the safe place in more detail, but it will help if you already have a place to call to mind.

- My safe place is:

.....

- My safe place makes me feel:

.....

.....

## Safe Place Visualisation Script

Start by getting comfortable in a quiet place where you won't be disturbed. Sit in a comfortable chair, with your feet flat on the floor and your hands either on the arms of the chair or in your lap. Close your eyes.

Take a couple of minutes to focus on your breathing. Take a slow, long breath in through your nose. Feel your belly expand like a balloon as you breathe in. Hold it for four seconds: 1...2...3...4. Then breathe out slowly through your mouth, feeling your stomach move in, like a balloon going down. Again, take a slow long breath in through your nose, feeling your belly expand. Hold it for four seconds: 1...2...3...4. Then breathe out again slowly through your mouth. One more time, take a slow, long breath in through your nose. Feel your stomach expand. Hold it for four seconds: 1...2...3...4. Exhale slowly through your mouth. Now, begin to take slow, long breaths, without holding them, and continue to breathe slowly throughout this exercise.

Now, imagine a place where you feel calm, peaceful and safe. It may be a place you've been to before, somewhere you've dreamed about going to,



somewhere you've seen a picture of, or just a peaceful place you can create in your mind's eye.

Look around you in that place, notice the colours and shapes. What does this place look like? Is it day-time or night-time, sunny or cloudy? Are you alone, or are there other people around, or any animals? If you're outside, look up and notice the sky. If you're inside, notice the furniture, the walls; is the room light or dark? What else do you notice?

Now notice the sounds that are around you, or perhaps the silence. What do you hear? Do you hear other people, animals, music, the wind, the sea? Notice those sounds far away and those nearer to you. Those that are more noticeable, and those that are more subtle.

Think about any smells you notice there. If you're inside, what does it smell like? If you're outside, do you smell the air, the grass, the sea?

Now focus on any skin sensations - the earth beneath you or whatever is supporting you in your place. The temperature, any movement of the air on your skin, your hair. Anything else you can touch.

Last, focus on your sense of taste. Are you eating or drinking anything? Are there any more subtle tastes you can notice?

Notice the pleasant physical sensations in your body whilst you enjoy this safe place. Recognise how safe and relaxed you feel here. Remember, you can come back to this place any time you need to feel safe and relaxed. You can also come back if you feel angry, sad, restless, or in pain.

Now, whilst you're still in your peaceful and safe place, you might choose to give it a name, this might be one word or a phrase that you can use to bring that image back, anytime you need to.

You can choose to linger there a while, just enjoying the peacefulness and serenity. Or you can leave whenever you want to, just by opening your eyes and being aware of where you are now, bringing yourself back to alertness in the 'here and now', returning your focus to the room.

## Mindfulness

Mindfulness is commonly defined as: **Paying attention in a particular way; on purpose, in the present moment, and nonjudgmentally** (Jon Kabat-Zinn, 1994). It is about really *being* in the here and now, paying attention to what is happening for us in the present moment and accepting that, rather than being caught up in negative thoughts about the past or worries about the future. Mindfulness takes us out of 'automatic pilot' and enables us to take a step back from our usual reactions, giving us time to consider an alternative. As with all the skills in the workbook, mindfulness skills take practice.

One way you can do this is by increasing mindfulness in everyday activities. Take time to stay in the present, noticing what is going on for you in the here and now, making sure to use all 5 senses. If your mind wanders, this is ok, it is perfectly normal. Just notice that is what has happened (without judging or criticising yourself) and return your attention to the mindful activity.

For example:

- Take a mindful shower – notice the sensations of the warm water on your skin, the sound it makes. Notice the smell of the shampoo, the sight of the body wash as it lathers.
- Go for a mindful walk – what do you see, hear, smell? Can you taste anything? What can you feel? Notice the sensations of your clothes on your skin, the wind on your face, the pressure of your feet on the ground as you walk.
- Make a cup of tea or coffee mindfully – Do each movement slowly, paying attention to what you are doing in each moment. Notice the sound of the hot water filling the cup, the clink of the spoon as you stir, the warmth of the steam. Notice the smell of the drink and as you slowly take a sip, notice the way it tastes and the way your mouth feels as you swallow it.
- **You can do just about any activity mindfully. Really engage with the present moment, noticing if your attention wanders and gently bringing it back to the here and now.**

Another way to practice mindfulness is through the use of more formal mindfulness exercises. The 3-minute breathing space is a brief exercise which enables you to quickly come back to the present moment, if you find yourself preoccupied with the past or the future, or are experiencing distress in a difficult situation. To get the most benefit from this exercise, it would be helpful to practice it every day, so that at times of overwhelming emotion, you know what to do and can easily use the technique.

As with the safe place visualisation, you might find it helpful to ask a member of ward staff to read this script aloud to you.

## **The 3-minute breathing space**

### **1. Awareness**

The first thing to do is to take a very definite posture: relaxed, dignified, back erect, but not stiff, letting our bodies express a sense of being present and awake.

Now, closing your eyes, if that feels comfortable for you, the first step is being aware, really aware, of what is going on with you right now. Becoming aware of what is going through your mind; what thoughts are around? Here, again, as best you can, just noting the thoughts as mental events. So we note them, and then we note the feelings that are around at the moment, in particular, turning toward any sense of discomfort or unpleasant feelings if that feels ok to do so. So rather than try to push them away or shut them out, just acknowledge them, perhaps saying, “Ah, there you are, that’s how it is right now.” And similarly with sensations in the body. Are there sensations of tension, of holding, or whatever? And again, awareness of them, simply noting them. OK, that’s how it is right now. And if your attention wanders, that is OK, just acknowledge where your mind has gone and gently bring your attention back to the exercise.

### **2. Gathering**

So, we’ve got a sense of what is going on right now. We’ve stepped out of automatic pilot. The second step is to collect our awareness by focusing on a single object—the movements of the breath. So now we really gather ourselves, focusing attention down there in the movements of the abdomen, the rise and fall of the breath, spending a moment or so to focus on the movement of the abdominal wall, moment by moment, breath by breath, as best we can. So that you know when the breath is moving in, and you know when the breath is moving out. Just binding your awareness to the pattern of movement down there, gathering yourself, using the anchor of the breath to really be present.

### **3. Expanding**

And now as a third step, having gathered ourselves to some extent, we allow our awareness to expand. As well as being aware of the breath, we also include a sense of the body as a whole. So that we get this more spacious awareness. A sense of the body as a whole, including any tightness or sensations related to holding in the shoulders, neck, back, or face, following the breath as if your whole body is breathing. Holding it all in this slightly softer, more spacious awareness.

And then, when you are ready, just allowing your eyes to open.

*3-minute breathing space script adapted from [www.mindfulness-extended.com](http://www.mindfulness-extended.com)*

## Increasing Positive Experiences

People who often experience overwhelming emotions have a tendency to view the world through a negative filter. That is, we find it very easy to notice negative experiences, but we rarely notice positive ones, or we find some way to discount or discredit them. As a result, we often experience distressing emotions such as sadness, anger, fear, and we rarely notice emotions of happiness, pleasure, surprise and love.

So, in order to reduce the impact of negative emotions, we need to also start paying attention to positive ones. One way to do this is to keep a pleasurable activities log, making a note of at least three positive things each day. See the next page for an example of a pleasurable activities log.

In addition to noticing existing pleasurable activities, we can also begin to create more opportunities for experiencing positive emotions by actively increasing the number of pleasurable activities we engage in. The list below provides some suggestions (you can also look at the Distraction list on page 5). Don't forget to include them in your daily log when you do them.

Spending time in the sun	Planning a day's activities	Thinking about my good qualities
Spending time with others	Dancing	Doing a hobby
Planning a trip	Thinking about past trips	Having a debate
Collecting things	Eating well	Taking care of the garden
Wearing nice clothes	Thinking I'm an OK person	Relaxing
Laughing / smiling	Photography (smartphones)	Doing something new
Daydreaming	Buying something new	Helping someone else
Make someone a gift	Play a game	Go for a meal with someone
Pampering myself	Telling someone you care	People-watching
Discuss a book/TV show	Playing an instrument	Thinking about pleasant events
Other: .....		

### Pleasurable Activities Log

Day	What was the experience?	How did you feel during this experience?  i.e. bodily sensations, moods, feelings	What thoughts went through your mind?	What thoughts are in your mind now as you write this down?
Example 1  Monday afternoon	Standing at an open window looking into the garden and hearing a bird sing.	Relaxed, I smiled  Happiness, pleasure	"That's good", "How lovely (the bird)", "It's so nice to hear nature".	"It was such a small thing, but I'm glad I noticed it."
Example 2  Tuesday morning	A friend came to visit.	Relaxed, calm  Very happy, laughed a lot, excited, a bit nervous to begin with	"I'm so happy she's here", "I hope she's ok".	"It was such a nice visit, I miss my friends but I hope I can see them more often"

## Acting Opposite

There are usually good reasons for whatever it is we feel. Even when painful, our emotions are often valid and legitimate. However, often when we act on those painful emotions, destructive outcomes can occur. For example, lashing out with someone physically or verbally because we are angry can result in hurting someone else or disrupting a relationship. Also, avoiding a task out of fear can lead us to withdraw from other people, to miss important deadlines, and to continue to be afraid.

What's more, acting on our negative emotion-driven impulses can actually serve to intensify the emotion rather than get rid of it. Lashing out at someone can cause us to feel further wound up and angry. One way to stop this from happening is to *act opposite*.

There are six steps to creating opposite action. Use the Opposite Action Planning Worksheet on page 17 (you may find it helpful to first write down a past example where opposite action could have been helpful).

1. Acknowledge the emotion – describe it in words.
2. Ask yourself if there is a good reason to reduce the intensity of the emotion (i.e. does it feel overwhelming, could it lead you to behave in a destructive or unhelpful way?).
3. Become aware of the body language, thoughts and behaviours that accompany the emotion (i.e. what is your facial expression, your posture? What are you saying, what is your tone of voice? What do you want to do in response to the emotion?).
4. Identify the opposite action. How can you change your facial expression or your posture? How can you move towards, not away from, the thing that scares you? How can you change your tone of voice or change what you are saying so that it is assertive rather than attacking? Make a plan for opposite action that includes a specific description of the new behaviour.
5. Commit to opposite action.
6. Monitor your emotions as you do opposite action. Notice how the original emotion may alter. Opposite action sends a message to the brain that the old emotion is no longer appropriate. This helps you to move towards a more appropriate, less painful emotion.

## Examples of Opposite Action

**Emotion:** Anger

**Emotion-Driven Behaviour:** Attack, hurt, criticise, shout, blame, take revenge.

**Opposite Action:** Avoid thinking about the person you are angry with. Don't seek them out. Distract yourself. Plan what you want to say to that person, ensuring civil, calm language and tone of voice. Imagine sympathy or empathy for the other person. Concentrate on doing something nice, rather than mean and attacking.

**Emotion:** Sadness or Depression

**Emotion-Driven Behaviour:** Avoid others, withdraw from activities, body language withdrawn.

**Opposite Action:** Get active and approach rather than avoid. Do things that make you feel competent, self-competent, and happy. Set goals. Stand tall.

**Emotion:** Guilt or Shame

**Emotion-Driven Behaviour:** Punish or hurt yourself, blame or criticise yourself, shutdown, avoid pleasurable activities or social interaction.

**Opposite Action:** If the guilt is **justified**, apologise. Make things better. Commit to avoiding the mistake in future. Accept the consequences and then let it go.

If the guilt is **unjustified**, approach, don't avoid. Continue to do what is triggering the guilt, again, and again, and again. Engage in positive and compassionate self-talk, rather than criticism.

**Emotion:** Fear

**Emotion-Driven Behaviour:** Avoid. Try to make yourself invisible – hunch shoulders, withdraw.

**Opposite Action:** Approach. Do whatever it is that you are afraid of, again, and again, and again. Stand tall. Do things that give you a sense of control and mastery. Approach events, places, activities, people you are afraid of, repeatedly.



### Opposite Action Planning Worksheet

Emotion	Emotion-Driven Behaviour	Opposite Action	Time Period	Outcomes
<i>Feeling angry</i>	<i>1. Shouting in an attacking way. 2. Planning revenge</i>	<i>Be civil. Say why I am angry in a calm, non-attacking voice. Plan something nice for myself rather than revenge.</i>	<i>As long as the conversation takes. Plan to do something nice tomorrow.</i>	<i>The conversation didn't end up as a fight. Neither of us shouted. I felt much happier when I took the time to watch my favourite film.</i>

## Useful Contacts

The name of my care co-ordinator is:

.....

Their contact number is:

.....

**You might find these numbers helpful if you need support once you have been discharged from the hospital:**

Samaritans – 08457 90 90 90

The Samaritans offer a telephone support line open 24 hours a day, every day. You can call this number if ever you are experiencing emotional distress and would like to talk to someone.

Use this space to record any other useful contact numbers (e.g. crisis team number):

## Acknowledgements

The material in this workbook has been adapted from 'The Dialectical Behaviour Therapy Skills Workbook, (McKay, Wood, and Brantley, 2007).

## Appendix 2

### Patient Discharge Questionnaire

#### Emotional Coping Skills Workbook Discharge Questionnaire

We would appreciate any feedback you have on the workbook. Please complete the below questionnaire, giving as much detail as you feel able to.

1. Did staff offer to go through the skills in the workbook with you?

YES / NO

2. Did you use the workbook? YES / NO

**If you did not use the workbook**, we would be very grateful if you could please let us know why this was:

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**If you did use the workbook:**

- a. Approximately how often did you use it **by yourself** (please circle)?

- i. Every day
- ii. 4-6 times a week
- iii. 2-3 times a week
- iv. Once a week
- v. Once a fortnight
- vi. Once a month
- vii. Less often than once a month

- b. Approximately how often did you use it **with a member of staff** supporting you?

- i. Every day

- ii. 4-6 times a week
- iii. 2-3 times a week
- iv. Once a week
- v. Once a fortnight
- vi. Once a month
- vii. Less often than once a month

c. Did you find the workbook helpful?

**Not at all helpful      A little helpful      Quite helpful      Very helpful**

d. Were there any skills that you found **particularly helpful**, and if so what were they?

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e. Were there any skills that you did **not find so helpful**, and if so what were they?

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f. Do you think there if anything that could be **improved** with the workbook? If so, what?

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3. Do you have any other comments about the workbook?

For example, about its ease of use or the staff support you received in using the workbook.

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Participant number:

Appendix 3  
Patient Information Sheet and Consent Form

**Information Sheet**

**Increasing access to emotional coping skills training in an acute  
inpatient setting: Outcomes for patients and staff.**

The hospital is trialling a new workbook, aimed at improving our patient's emotional coping skills and we would like to invite you to take part in a project to evaluate its usefulness and effectiveness. Before you decide if you would like to take part, we would like you to understand why the project is being done and what it would involve for you. Please read this information sheet and ask any questions you might have. When we have explained the project, answered your questions, and you have had enough time to decide, you will then be able to choose whether to take part.

***What is the purpose of the project?***

This project aims to explore whether our patients find a booklet containing a range of emotional coping skills helpful and whether using the booklet has any effect on patient well-being. Results of the study will be used to decide whether the workbook should be given to all patients on admission, or whether an alternative method of delivery may be more beneficial.

***Why have I been invited?***

You have been invited to take part because you have been admitted to the xxx Ward of xxx Hospital, where we are trialling a new emotional coping skills workbook with our patients.

***Do I have to take part?***

Taking part in this project is voluntary and you have the right to withdraw at any point without having to give any reasons. Your treatment will not be affected if you do not wish to take part or choose to withdraw from the project.

### ***What will happen if I take part?***

If you decide to take part, a nurse will ask you to complete some questionnaires. You will then be given the booklet and the nurse will go through it with you, explaining the skills and helping you to practice them. You can use the workbook as much or as little as you would like during your stay in hospital, and this can be either by yourself, or with the support of one of the ward nurses. When it is time for you to be discharged from the hospital, a nurse will ask you to complete some more questionnaires.

### ***What are the risks and benefits?***

There are not considered to be any risks in taking part in this project. If you take part, you may find that the workbook helps you to learn evidence-based emotional coping skills which may help you to better manage your emotions during times of distress.

### ***Confidentiality and Data Protection***

All information that you provide will be kept **completely confidential**. The only time we may need to break this confidentiality is if you tell us anything which means that you or someone else are at risk of harm. If this occurred, we would first talk to you, before talking to your care team to ensure you receive the appropriate support.

Your responses to the questionnaires will be kept securely, away from your patient records which are kept by the hospital. When we write up the results of the project, all of your responses will be anonymised, such that none of the information will be identifiable as yours.

### ***Questions or concerns?***

If you have any questions or concerns regarding the project at any time, please speak to one of the ward staff. Alternatively, you can ask to speak to Dr. Paul Bibby, the Clinical Psychologist for the ward.

***What now?***

Please feel free to take some time to consider this information sheet and ask the nurse who is taking you through this sheet any questions you may have.

If you decide you would like to take part, the nurse will provide you with a consent form to sign and will then take you through the questionnaires.

Thank you for your time

Laura Brown  
Clinical Psychologist in Training  
University of Bath

Dr. xxx  
Clinical Psychologist  
xxx Hospital

Dr. Falguni Nathwani  
Clinical Psychologist  
University of Bath

*This project has been approved by the University of Bath ethics committee.*



## CONSENT FORM

### Increasing access to emotional coping skills training in an acute inpatient setting: Outcomes for patients and staff.

Please initial each box

1. I confirm that I have read and understood the Information Sheet (Version 1, dated 8<sup>th</sup> September 2014). I have had the opportunity to ask questions and have had them answered to my satisfaction.

☐

2. I understand that my participation is voluntary, I do not have to answer every question asked, and that I am free to withdraw at any time, without giving a reason for leaving. I understand that if I choose to withdraw, this will not affect my treatment in any way.

☐

3. I understand that my data will be treated confidentially and if published, will not be identifiable as mine.

☐

4. I agree to take part in the above study.

☐

If you are happy to take part, please write your name, signature, and date here:

\_\_\_\_\_  
Name of participant

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of staff member  
taking consent

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Participant number:

Appendix 4  
Staff Semi-Structured Interview Schedule

Workbook:

1. Have you been involved in the workbook trial (i.e. did you introduce the workbook to patients or use it with anyone)?
2. (Skip if no) Could you please tell me a bit about your experiences of using the workbook with patients?
  - a. How did you find the process of: offering the workbook to patients / asking them to fill in questionnaires / going through the workbook with them?
3. (Do you feel able to comment on) Could you please tell me about any parts of the workbook trial that have worked well?
4. (Do you feel able to comment on) Could you please tell me about any parts of the workbook trial that have not worked well?
  - a. What have been the key difficulties / barriers?
5. (Do you feel able to comment on) What improvements could be made?
  - a. To the delivery/implementation of the workbook
  - b. To the workbook itself (or the mode of delivery)

Reflective Practice Sessions:

6. Could you please tell me a bit about your experiences of the reflective practice sessions?
  - a. For example: Frequency / content / usefulness
7. What improvements could be made to the reflective practice sessions?

**Thank you**

Appendix 5  
Staff Information Sheet and Consent Form

**Information Sheet**

**Increasing access to emotional coping skills training in an acute inpatient setting: Outcomes for patients and staff – A short interview**

The hospital has been trialling a new workbook, aimed at improving our patients' emotional coping skills and exploring staff experiences of using the workbook with patients. We would like to invite you to take part in a discussion of your experiences of the trial, to explore any difficulties that may have arisen.

Before you decide if you would like to take part in this part of the study, we would like you to understand why the interview discussions are taking place and what would be involved for you. Please read this information sheet and ask any questions you might have. When we have explained this part of the project, answered your questions, and you have had enough time to decide, you will then be able to choose whether to take part.

***What is the purpose of the interview?***

The interview aims to explore staff views on the workbook, including its usefulness and ease of implementation, and to discuss any difficulties that have arisen during the workbook trial. Results of the study will be used to inform the development of increased psychological skills support throughout the whole unit.

***Why have I been invited?***

You have been invited to take part because you are a member of staff on xxx Ward, xxx Hospital, where we have been trialling the new emotional coping skills workbook.

***Do I have to take part?***

Taking part in this project is voluntary and you have the right to withdraw at any point without having to give any reasons.

***What will happen if I take part?***

If you decide to take part, we will ask you to take part in a short interview about your experiences of the study and any difficulties that occurred. You will be free to say as much or as little as you would like.

***What are the risks and benefits?***

There are not considered to be any risks or benefits in taking part in this project. However, your feedback on your experiences of using the booklet with patients will be used alongside patient data and feedback to inform the development of increased psychological skills support in such a way that should ultimately benefit the service, ward staff, and patients.

***Confidentiality and Data Protection***

All information that you provide will be kept **completely confidential and anonymised**. Interviews will be audio recorded and then transcribed. During this process, responses will be anonymised and any identifiable data removed. Once transcribed, the audio recordings will be destroyed. Transcriptions of the interviews will be kept securely, in the psychological therapies office. Confidentiality will only be broken in exceptional circumstances, if there are significant grounds for concern about a response given. In this case, we will contact you in the first instance to discuss concerns and seek clarification.

***Questions or concerns?***

If you have any questions or concerns regarding the project at any time, please speak to:

Laura Brown (Clinical Psychologist in Training) – [laura.brown48@nhs.net](mailto:laura.brown48@nhs.net)

***What now?***

Please feel free to take some time to consider this information sheet and ask any questions you may have. If you decide you would like to take part, we

will provide you with a consent form to sign and then ask you to participate in a short interview.

Thank you for your time

Laura Brown  
Clinical Psychologist in Training  
University of Bath

Dr. Maria Loades  
Clinical Psychologist  
University of Bath

*This project has been approved by the University of Bath ethics committee.*

## CONSENT FORM

### Increasing access to emotional coping skills training in an acute inpatient setting: Outcomes for patients and staff - A short interview

Please initial each box

1. I confirm that I have read and understood the Information Sheet (Version 1, dated 1<sup>st</sup> October 2015). I have had the opportunity to ask questions and have had them answered to my satisfaction. ☐
2. I understand that my participation is voluntary, I do not have to answer every question asked, and that I am free to withdraw at any time, without giving a reason for leaving. ☐
3. I understand that my data will be treated confidentially and if published, will not be identifiable as mine. ☐
4. I agree for the interview discussions to be audio recorded. ☐
5. I agree to take part in the above study. ☐

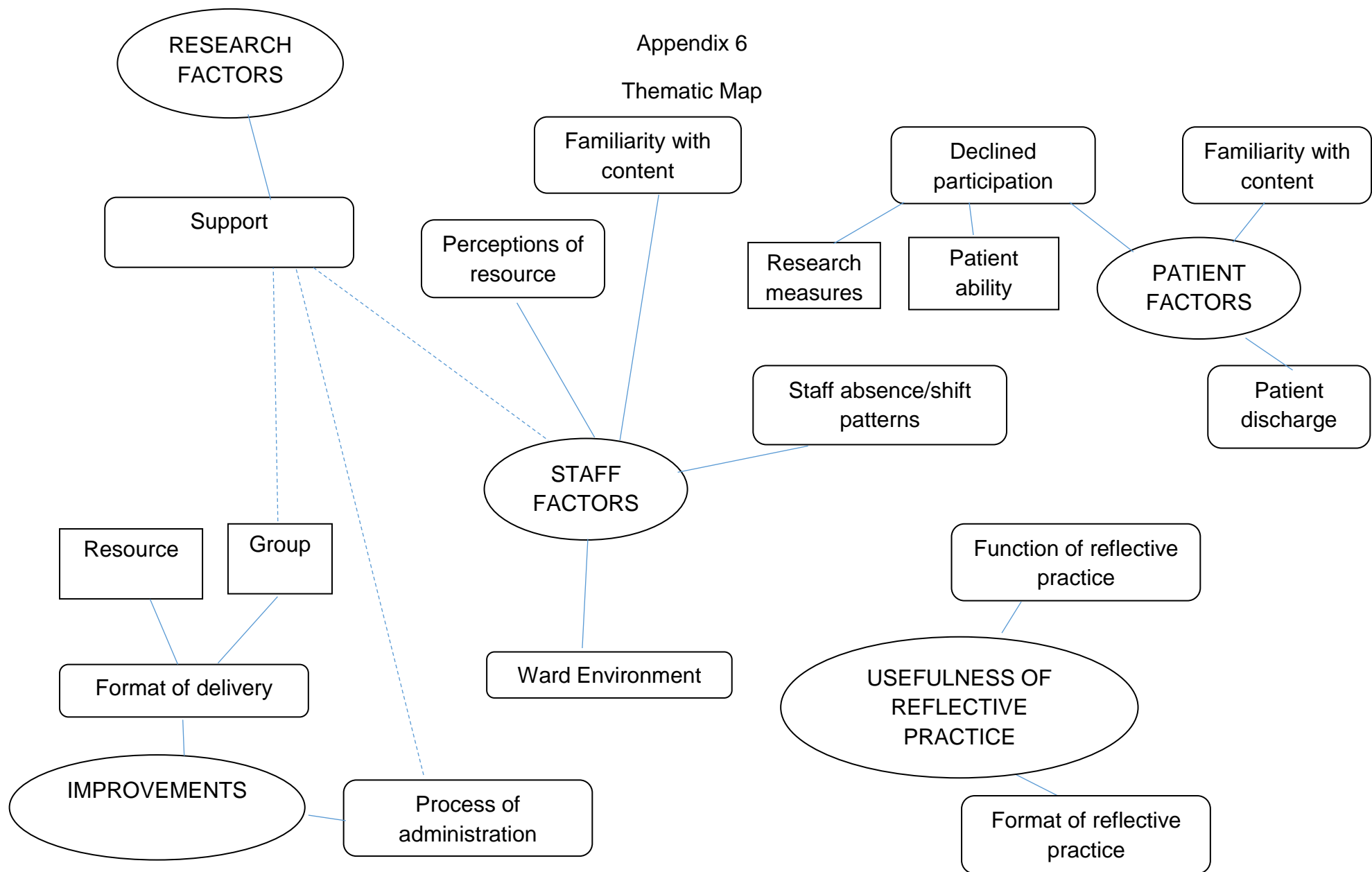
If you are happy to take part, please write your name, signature, and date here:

\_\_\_\_\_  
Name of staff member                      Signature                      Date

\_\_\_\_\_  
Name of researcher  
taking consent                      Signature                      Date

Participant number:

Appendix 6  
Thematic Map



## Appendix 7

### Summary of results for ward manager

#### **Trialling a guided self-help emotional coping skills resource on xxx**

##### **Ward**

#### **Service Improvement Project: Summary of results**

A service improvement project has been undertaken on xxx Ward by Laura Brown, clinical psychologist in training, under the supervision of Dr Maria Loades (clinical psychologist and tutor, University of Bath) and Dr Louise Horner-Baggs (clinical psychologist, xxx). The project was approved by the University of Bath Psychology Department Ethical Committee (reference: 14-199) and the xxx NHS Trust Research Support Service (reference: 14/029/2gt).

This report outlines the project and its results, in addition to providing a number of recommendations which emerged from the study's findings. I hope you find this report helpful. If you have any questions or concerns about the project or this report, please do not hesitate to contact me (lb631@bath.ac.uk).

#### **Rationale for the project:**

Whilst patients receive emotional support from staff on the ward, there is currently little in the way of formal emotional coping skills support. Mental wellbeing and art psychotherapy groups take place away from the ward environment and thus require patients to have the correct leave, or to be escorted. Other than this, a referral to the psychological therapies department is needed in order for a patient to receive individual psychological work. Therefore, the hospital psychological therapies department wanted to develop a resource that would increase patient access to psychological support in line with the New Ways of Working report (Onyett, 2007). Hence, they commissioned the present service improvement



study, namely the development and evaluation of a hospital guided self-help resource.

**Development of a guided self-help resource:**

Consultation with the hospital clinical psychologist indicated that patients are predominantly admitted due to an increase in risk and as such, a guided self-help resource focusing on emotional coping skills may be most beneficial for patients.

The resource was developed by the lead researcher and contained emotion regulation and distress tolerance skills predominantly adapted from CBT and DBT. The resource was a mixture of written information, scripts to follow, and worksheets to fill out.

**The planned study procedure was as follows:**

Seventeen members of staff were provided with training on the resource (e.g. rationale for its development, evidence-base for the techniques, and information on how and when they might be used).

Staff were asked to provide patients with an Information Sheet outlining the aims of the study and what participation would involve, and patients were required to provide written consent to participate. Staff were asked to administer a questionnaire to patients before receiving the resource, and again prior to discharge in order to evaluate the effectiveness of the resource. However, during the course of the trial, there were significant barriers to collecting this data such that data could not be analysed.

As a result of difficulties in implementation and data collection, it was considered important to explore staff perceptions of feasibility and acceptability of using the guided self-help resource, and to gain a better understanding of what the barriers to implementation were. A further aim was to explore staff perceptions of introducing supplementary reflective practice sessions on the ward. These sessions were planned to be run by the hospital clinical psychologist on a fortnightly basis. However, unforeseen

circumstances meant that the reflective practice sessions were held on a less frequent basis (estimated at one every two to three months).

At the end of the trial period, eight members of staff took part in qualitative interviews.

### **Results:**

Five main themes were identified: staff factors, patient factors, research factors, usefulness of reflective practice, and improvements. Each theme is described briefly below.

**Staff factors.** A range of staff factors were highlighted with regards to what influenced the acceptability and feasibility of the trial on the ward. Overall, ward staff were extremely positive about the resource itself and its impact on patients. A key factor cited by staff as aiding the feasibility of using the resource on the ward, was that staff were already familiar with the content. Staff reported using many of the techniques in their day-to-day work on the ward, and found it helpful to have a resource to support the work they are already doing. For some, it was useful to remind them of key coping and emotion regulation skills, which they can then use more informally with patients (rather than using the resource directly with them).

The consensus of those interviewed was that the trial did not have a presence on the ward. That is to say, trial procedures were not instilled as part of general ward procedures or the ward culture. It would appear that initial motivation to be involved with the trial soon waned and the trial became forgotten about. Key reasons for the perceived failure of the trial related to the fast-paced, busy nature of the ward. Staff reported being so busy with their “core business”, that they did not have the time to be involved in the trial. The ward environment was reported to be one of the main barriers to implementing the trial.

A further barrier pertained to staff shift patterns, sick leave, and annual leave. These factors made it difficult for staff to keep track of the processes necessary to carry out the trial or to offer continuous support to patients. Staff reported coming back on shift or returning from leave, only to find that a patient they were working with had been discharged, and so were not able to administer the discharge questionnaires. Shift and leave patterns further impacted upon staff's ability to prioritise and remember the trial processes.

**Patient factors.** Similarly, a number of patient-related factors were cited by staff as influencing the success of the trial. Staff noted that those patients who were particularly amenable to taking part in the trial were those who had experienced psychological support as useful previously. Those who had not previously experienced psychological therapy or had experienced it as unhelpful, were reported as being less likely to consent to participating, due to the predicted unhelpfulness of the intervention.

Staff felt that whilst several patients simply did not wish to take part, a key barrier to participation related to the patient's current mental health status. That is, they had been admitted due to increased levels of risk or distress and perhaps found the resource and associated paperwork too overwhelming to consider. Additionally, the ability of patients to consent to the research trial was cited as a barrier, such that patients may lack the capacity to understand what they are consenting to. Furthermore, the frequent experience of paranoia in patients may cause them to be suspicious regarding the reasons as to why they are being asked to sign their name.

A further patient-related factor cited by staff related to the period surrounding discharge. Patient discharge can occur quickly, and there is a large amount of discharge paperwork that patients are already required to complete before they are permitted to leave the hospital.

**Research factors.** Factors related to conducting research were reported by staff as a primary barrier to the acceptability and feasibility of the trial, particularly with regards to the level of support they received. Staff reported

feeling unsupported in taking research consent from patients and administering questionnaires, particularly as this is additional to their core roles and responsibility. Staff did not feel that they had the capacity to take on these additional tasks and reported that it was not viable to undertake research on the ward without additional support.

**Usefulness of reflective practice.** Staff varied in their perception of how useful the reflective practice sessions were. A common theme throughout the staff transcripts appeared to be that of uncertainty with regards to how often the reflective practice sessions were held. Some staff recalled sessions occurring weekly, others recalled half an hour once every few months, and others recalled just two sessions being offered. Whilst this may reflect the barrier of staff shift patterns, it is also possible that, given that sessions were held at the end of handover sessions, the boundaries between the two sessions may have become blurred such that the structure of reflective practice was unclear. This was certainly the consensus amongst those interviewed. Staff reported that more recently, the structure and frequency of sessions had been clearer, and that this improved session usefulness. The quality of facilitation was reported as important in ensuring this.

Many staff members found the reflective practice sessions useful as they enabled them to “vent” and “let off steam”. Others felt that sessions enabled them to express feelings on recent difficult events and to have these feelings normalised by others experiencing similar feelings. However, this was not the case for all staff, with other members finding sessions unhelpful. Reasons included sessions not providing the explicit answers or solutions they were hoping for, and sessions being dominated by certain people vocalising negative beliefs about certain diagnoses, for example.

**Improvements.** Staff made a number of key suggestions regarding ways in which to improve the feasibility and acceptability of a resource aimed at enhancing the psychological coping skills of patients on the ward.

- Staff felt that although the content of the resource was good, it could be made more accessible to patients through the use of more colour and simplified language.
- Staff reported that the resource may better embed itself in the ward culture if it was broken up into smaller, skill-specific, leaflets which could be left in communal areas and introduced/delivered in a less formal manner.
- Staff endorsed the use of the 'mindfulness colouring books' that the ward has purchased for patients. These books enable patients to become absorbed in mindful distraction, with little prior introduction or time involvement from the ward staff. They offer a ready 'solution' at times of distress, rather than the commitment to read and practice skills inherent in the coping skills resource. The coping-skills resource may benefit from having a similar practical distress-tolerance focus.
- It also appeared important that the resource could be readily implemented without the need for staff to support its use (in light of key barriers relating to staff availability and priorities).
- Groups were suggested. Given previous barriers cited by staff regarding the unpredictable and busy nature of the ward environment, groups would need to be co-facilitated by a member of the psychology department. It may be that the psychologist attends a regular group to introduce the resource and makes themselves available for related questions and support. Not only would this would improve staff perceptions of support from psychology, which have to date been lacking, but it would also increase the presence of the resource on the ward in a way that would support psychological coping skills to become embedded in the culture of the ward.
- Staff repeatedly vocalised the barrier of the research procedures in implementing what they otherwise saw as a beneficial resource. Staff felt that if the research elements were eliminated, such that their only task was to introduce a psychological resource that was in many ways in line with their day-to-day conversations with patients, this would

completely alter the trial into something that was feasible and acceptable for both staff and patients.

### **Recommendations:**

In light of the above findings, the following recommendations are made:

#### **Guided self-help resource**

- To improve accessibility, the existing resource could be amended into several difficulty-specific (e.g. sleep) or skill-specific (e.g. mindfulness) leaflets.
- Including colour and images, and removing lengthy paragraphs of text will further improve accessibility.
- Resources should be readily available on the ward, and be feasible for patients to read and work through alone, as well as with the support of staff.
- Involving both staff and patients the development of these resources may further increase the likelihood of successful implementation, through enabling staff and patients to take ownership of the project (in contrast to feeling as though the project was “parachuted in” and that they were “abandoned”, as reported during the interviews).
- The hospital psychology department should consider whether it is feasible to offer ward-based emotion regulation and coping skills groups on the wards, in conjunction with ward staff. Alternatively, consider being present on the ward at specified times such that patients (and staff) have access to informal psychological support. This may increase the therapeutic milieu on the ward and overcome the barrier of staff feeling unsupported.

#### **Research and evaluation**

- Should further research and evaluation take place on the ward (for example evaluating the impact of the edited self-help resources), the

psychology department will need to take a lead role in processes such as taking patient consent to participate. It is possible that staff members could carry out data collection with patients, but in the context regular support from the psychology department.

- A process surrounding patient discharge should be discussed in advance with ward staff, in order for barriers at this stage to be negotiated.
- Including discharge measures as a mandatory item and storing it alongside other discharge paperwork may facilitate this.
- If evaluation is to become part of the hospital culture, processes must be agreed with staff, included as a priority, and comprehensively supported by the psychology department.

### **Reflective practice**

- In order for the reflective practice sessions to be considered more universally beneficial, an explicit discussion between the hospital psychologist and ward staff regarding the function and goals of reflective practice must take place.
- Whilst the group must remain flexible with regards to membership for example (due to shift patterns and ward crises), there needs to be an explicit structure, such that there is a shared understanding of group location and time, in addition to format.
- In order to further ensure the sessions remain reflective and do not “blur” into handover, a location off the ward should be considered.

## Appendix 8

### Summary of results for ward staff

#### **Trialling a guided self-help emotional coping skills resource on xxx Ward**

##### **Service Improvement Project: Summary of results**

Thank you for taking part in the service improvement project which aimed to explore the use of a guided self-help emotional coping skills resource on Dean Ward.

At the end of the project, I interviewed many of you in order to find out what had gone well and what had not gone so well. You told me that:

- ✓ You thought the workbook was good.
- ✓ It was a helpful resource to support the work you are already doing and to remind you of key coping and emotion regulation skills, which you can then use more informally with patients.
- × The project did not have a presence on the ward and that the project's procedures were not instilled as part of general ward procedures.
- × The ward is so busy and fast-paced that you did not have time to introduce or use the workbook with patients.
- × Staff shift patterns, sick leave, and annual leave made it difficult for you to keep track of the processes necessary to carry out the project or to offer continuous support to patients.
- × Patients who had had psychological therapy before and found it helpful were more likely to want to use the workbook, whereas those who had previously found psychological support unhelpful were more likely to decline participation.
- × The patient's current mental health status and capacity to consent prevented many patients from taking part in the project. Some patients found the level of paperwork too overwhelming, whilst others were experiencing paranoia and so were unable to provide consent.
- × Patient discharge can occur quickly, and there is a large amount of discharge paperwork that patients are already required to complete



before they are permitted to leave the hospital. This often meant that patients did not want to complete additional paperwork.

- × Factors related to conducting research were a main barrier to the success of the project.
- × You felt unsupported in undertaking the additional tasks that were asked of you during the project.

I also asked you about the usefulness of the reflective practice sessions. You varied in your experiences of the reflective practice sessions:

- × There appeared to be some uncertainty with regards to how often the reflective practice sessions were held. Some of you recalled sessions occurring weekly, whilst others recalled just two sessions being offered.
- × You told me that because sessions happened at the end of handover, boundaries between the two sessions became a bit blurred, such that the structure of reflective practice was unclear.
- ✓ You told me that more recently, the structure and frequency of sessions had been clearer, and that this improved session usefulness. The quality of facilitation was reported as important in ensuring this.
- ✓ Some of you found the sessions useful as they enabled you to “vent” and “let off steam”. Some of you felt that sessions enabled you to express feelings on recent difficult events and to have these feelings normalised by others experiencing similar feelings.
- × However, some of you found sessions unhelpful. Reasons included sessions not providing the explicit answers or solutions that you were hoping for, and sessions being dominated by certain people vocalising negative beliefs about certain diagnoses, for example.

You made a number of key suggestions regarding ways in which to improve the usefulness of a resource aimed at enhancing the psychological coping skills of patients on the ward. You suggested:

- Using more colour and simplified language.

- Breaking the workbook up into smaller, skill-specific, leaflets which could be left in communal areas and introduced/delivered in a less formal manner.
- That the resource(s) should have a practical distress-tolerance focus, similar to the mindfulness colouring books you have on the ward.
- The resource(s) needed to be readily implemented without the need for staff to support its use.
- Groups. Given the unpredictable and busy nature of the ward environment, you felt that groups would need to be co-facilitated by a member of the psychology department. It may be that the psychologist could attend a regular group to introduce the resource and makes themselves available for related questions and support.
- Removing the research-related elements of the project.

### **Recommendations:**

In light of what you told me, I have made some recommendations:

#### **Guided self-help resource**

- To improve accessibility, the existing resource could be amended into several difficulty-specific (e.g. sleep) or skill-specific (e.g. mindfulness) leaflets.
- Including colour and images, and removing lengthy paragraphs of text will further improve accessibility.
- Resources should be readily available on the ward, and be feasible for patients to read and work through alone, as well as with the support of staff.
- Involving both staff and patients the development of these resources may further increase the likelihood of successful implementation, through enabling staff and patients to take ownership of the project.
- The hospital psychology department should consider whether it is feasible to offer ward-based emotion regulation and coping skills groups on the wards, in conjunction with ward staff. Alternatively,

consider being present on the ward at specified times such that patients (and staff) have access to informal psychological support. This may increase the therapeutic milieu on the ward and overcome the barrier of staff feeling unsupported.

### **Research and evaluation**

- Should further research and evaluation take place on the ward (for example evaluating the impact of the edited self-help resources), the psychology department will need to take a lead role in processes such as taking patient consent to participate. It is possible that staff members could carry out data collection with patients, but in the context regular support from the psychology department.
- A process surrounding patient discharge should be discussed in advance with ward staff, in order for barriers at this stage to be negotiated.
- Including discharge measures as a mandatory item and storing it alongside other discharge paperwork may facilitate this.
- If evaluation is to become part of the hospital culture, processes must be agreed with staff, included as a priority, and comprehensively supported by the psychology department.

### **Reflective practice**

- In order for the reflective practice sessions to be considered more universally beneficial, an explicit discussion between the hospital psychologist and ward staff regarding the function and goals of reflective practice must take place.
- Whilst the group must remain flexible with regards to membership for example (due to shift patterns and ward crises), there needs to be an explicit structure, such that there is a shared understanding of group location and time, in addition to format.

- In order to further ensure the sessions remain reflective and do not “blur” into handover, a location off the ward should be considered.

I hope you find this summary helpful. If you have any questions or concerns regarding the project or this summary document, please do not hesitate to contact me (lb631@bath.ac.uk).

Appendix 9  
Ethical and Research and Development Approvals  
NRES Approval



**East Midlands - Nottingham 1 Research  
Ethics Committee**

Royal Standard Place  
Nottingham  
NG1 6FS

Telephone: 0115 8839273

22 October 2015

Miss Laura Brown  
Doctorate in Clinical Psychology, University of Bath  
Claverton Down  
Bath  
BA2 7AY

Dear Miss Brown,

<b>Study title:</b>	<b>Mechanisms underpinning depression in Multiple Sclerosis: The role of symptom patterns and psychosocial factors</b>
<b>REC reference:</b>	<b>15/EM/0410</b>
<b>Protocol number:</b>	<b>N/A</b>
<b>IRAS project ID:</b>	<b>169161</b>

Thank you for your letter of 9<sup>th</sup> October 2015, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to make a request to postpone publication, please contact the REC Manager, Ms Rachel Nelson, NRESCCommittee.EastMidlands-Nottingham1@nhs.net.

**Confirmation of ethical opinion**

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

**Conditions of the favourable opinion**

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

*Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.*

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

*Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.*

*For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.*

*Sponsors are not required to notify the Committee of approvals from host organisations*

#### Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett ([catherineblewett@nhs.net](mailto:catherineblewett@nhs.net)), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

**It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).**

#### **Ethical review of research sites**

##### NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to

management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

### Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering letter on headed paper [Letter addressing points raised by the committee 13.8.15]	1	13 August 2015
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Indemnity Document]		
Interview schedules or topic guides for participants [Interview Schedule ]	1	10 April 2015
IRAS Checklist XML [Checklist_20082015]		20 August 2015
IRAS Checklist XML [Checklist_09102015]		09 October 2015
Letter from sponsor [Sponsorship letter of support]	1	07 July 2015
Letters of invitation to participant [Invitation to participate NHS]	1	11 May 2015
Letters of invitation to participant [Invitation to participate MS Centre xxx]	1	11 May 2015
Letters of invitation to participant [Invitation to participate MS Centre xxx]	1	11 May 2015
Letters of invitation to participant [Invitation to part 2]	1	26 March 2015
Non-validated questionnaire [Demographic Questionnaire]	1	10 April 2015
Other [L. Dysch CV]	1	11 May 2015
Other [Liability Insurance Document]	1	01 August 2014
Other [Debrief for end of questionnaire pack]	1	26 March 2015
Other [Ethics Unavourable Opinion Letter]	1	20 July 2015
Other [Liability Insurance Document]		
Other [xxx Lone Working Policy]		14 May 2015
Other [xxx Lone Working Policy]		06 February 2013
Participant consent form [Questionnaire consent form v3 28.09.15]	3	28 September 2015
Participant consent form [Interview consent form v3 28.09.15]	3	28 September 2015
Participant information sheet (PIS) [Questionnaire information sheet v3 28.9.15]	3	28 September 2015
Participant information sheet (PIS) [Interview information sheet v3 28.09.15]	3	28 September 2015
REC Application Form [REC_Form_20082015]		20 August 2015
Research protocol or project proposal [MS Protocol ]	2	13 August 2015
Summary CV for Chief Investigator (CI) [L. Brown CV]	1	05 January 2015
Summary CV for supervisor (student research) [J. Gregory CV]	1	16 May 2015
Validated questionnaire [Brief Pain Inventory]	1	10 April 2015
Validated questionnaire [Multiple Sclerosis Impact Scale-29]	1	10 April 2015
Validated questionnaire [MS Self Efficacy Scale]	1	10 April 2015
Validated questionnaire [PHQ9]	1	10 April 2015
Validated questionnaire [GAD7]	1	10 April 2015
Validated questionnaire [Short Health Anxiety Inventory]	1	10 April 2015
Validated questionnaire [Self compassion scale]	1	10 April 2015
Validated questionnaire [The Forms of Self-Criticising Attacking and	1	10 April 2015

Self-Reassuring Scale]		
Validated questionnaire [Defeat Scale]	1	10 April 2015
Validated questionnaire [Social Provision Scale]	1	10 April 2015

## Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

## After ethical review

### Reporting requirements

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

## User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website:

<http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>

## HRA Training

We are pleased to welcome researchers and R&D staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

**15/EM/0410**

**Please quote this number on all correspondence**

With the Committee’s best wishes for the success of this project.

Yours sincerely,

**Dr Carl Edwards**  
**Chair**

Email: NRESCCommittee.EastMidlands-Nottingham1@nhs.net  
Enclosures: “After ethical review – guidance for researchers”

Copy to: Professor Jane Millar; Ms Irene Blair



## Appendix 10

### Demographic/Background Questionnaire

#### About Me

Age: \_\_\_\_\_ years \_\_\_\_\_ months

Gender (please circle): Male / Female

What is your ethnic group?

\_\_\_\_\_

Employment status (please tick):

_____	Employed full-time	_____	Unemployed
_____	Employed part-time	_____	Employed but on long-term sick leave
_____	Homemaker	_____	Other (please state): _____
_____	Retired	_____	

If you are not currently employed or are on long-term sick leave, is this a result of your MS (please circle)? Yes / No

Marital status (please tick):

_____	Single	_____	Widowed
_____	Married	_____	Other (please state): _____
_____	Separated / Divorced	_____	
_____	Co-habiting		

Do you have any children (please circle)? Yes / No

If yes, please provide details of how many, their ages, and whether they are living in the same home as you:

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What is your diagnosis (please tick): ☐ Primary progressive MS  
☐ Secondary progressive MS  
☐ Progressive-relapsing MS  
☐ Relapsing-remitting MS

How long has it been since you were diagnosed?  years  months

Please list any medication you are taking:

---

---

How many times have you had a relapse in the last 12 months?

---

Are you **currently** experiencing any mental health problems for which you are receiving professional support? Yes / No

Please provide details (e.g. type of mental health problem):

---

---

Have you experienced depression in the past (please circle)? Yes / No

If yes, how many episodes (please tick)? ☐ 1

☐ 2 - 4

☐ More than 4

If you answer 'Yes' to any of the below questions, you are not eligible to participate in the present study. Thank you for your time but please discard this questionnaire.

If you answer 'No' to each of the below questions, please continue to the next questionnaire.

- Do you have significant current difficulties with alcohol or drugs?

Yes / No

- Do you have significant concerns about your memory or thinking skills?

Yes / No

## Appendix 11

### NHS Invitation Letter

Dr. xxx

Community Neuro and Stroke Service

«Date\_of\_letter»

«Title» «First\_name» «Surname»

«Address\_Line\_1»

«Address\_Line\_2»

«Address\_Line\_3»

«County»

«Postcode»

Dear «Title» «Surname»,

#### **RE: MS research needs your help!**

I am writing to invite you to take part in a research study exploring the emotional impact of MS and the things that might affect this. You have been selected by your MS nurse because you have a diagnosis of MS and we would really value your help with this piece of research.

Enclosed with this letter is an information sheet about the study. I would be grateful if you could please read the information sheet and decide if you would like to take part in completing a survey. You would receive a £5 Amazon voucher to thank you for taking part.

#### **There are several ways you can complete this survey:**

- By filling in the enclosed questionnaire booklet.
- Online, at: <https://bathreg.onlinesurveys.ac.uk/ms-survey>
- Via telephone or during a face to face meeting with Laura Brown, the researcher. If you would like to complete the survey in this way, please contact Laura on the details provided in the information sheet.

It is hoped that results from this study may help us to find out how best to support people with MS who are experiencing low mood or depression. Please be aware that your treatment will not be affected in any way if you decide not to take part.



### Participant Information Sheet

**Title of Project: Mechanisms underpinning depression in MS**

Name of researcher: Laura Brown

#### We need your help!

*We would like to invite you to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and decide whether or not you wish to take part.*

#### What is the purpose of this study? “To look at things that affect mood in people with MS”

Research has shown that up to 50% of people with MS experience depression. We are interested in finding out what predicts the development of depression in people with MS and what differences there are between those who experience depression and those who do not. Results of the study may help us to find out how best to support people with MS experiencing depression.



#### Why have I been invited to take part? “Because you have MS!”

You have been invited to take part because you have a diagnosis of MS.



#### Do I have to take part? “No, but we would like your help!”

No, you do not have to take part. If you decide to take part and then later change your mind, you can withdraw without giving your reasons, and if you wish, your data will be destroyed. Taking part, or otherwise, in the study will not affect the treatment that you are currently receiving or likely to receive in the future.



We will follow this invitation up with a reminder letter in two weeks if we have not heard from you. After that, we will not contact you again.

#### What will I be asked to do if I take part? “Fill out some forms!”

If you agree to take part, we would like you to complete the enclosed questionnaire pack and return to us in the stamped addressed envelope provided.



Or, you can complete the questionnaire online at:

<https://bathreg.onlinesurveys.ac.uk/ms-survey>

If you would like to complete the questionnaires with support (via telephone or during a face to face meeting with Laura Brown, the researcher), please contact Laura on the details provided below.

We think it will take about an hour to complete the questionnaire pack. The questionnaires ask you about your diagnosis of MS, as well as looking at topics such as mood, anxiety, self-criticism and social support. This is because we think these factors may contribute to whether or not a person experiences depression.

### **Will my experiences be kept confidential? “Yes!”**

Yes. All information which is collected about you during the course of the research will be kept confidential. This means that all information you provide will have your name and address removed so that you cannot be identified from it. All personal information will be locked away or password protected with access restricted to study personnel.



The only time we may need to break this confidentiality is if you tell us anything which means that you or someone else are at risk of harm. If this occurred, we would try to first talk to you, before talking to your care team to ensure you receive the appropriate support.

We hope to report our findings in academic/health related journals and present them to relevant health professionals at meetings and conferences. The findings will also contribute to Laura Brown's Doctorate in Clinical Psychology. You will not be identified in any reports or publications arising from the study.

### **Are there any advantages/benefits to taking part? “Helping MS research and a £5 Amazon voucher!”**

Once you have returned the questionnaire to us, you will receive a £5 Amazon gift voucher to thank you for taking part. On completion of the study, a summary of the findings will be available from your MS nurse or local MS therapy Centre.



Although we cannot promise that the study will help you directly, the information collected from you and other participants may help to improve our understanding of MS and specifically what makes a person more likely to experience depression. A further benefit of this research may be to inform the application of psychological therapies.



### **Are there any disadvantages/risks to taking part? “No, but we are asking for your time”**

We think there are minimal disadvantages to taking part e.g. the time taken to complete the questionnaire pack.

### **What if I have a question or concern? “Ask us!”**

If you have any questions or concerns, please contact the researchers, Laura Brown or Dr James Gregory, who will do their best to answer your questions. Their contact details are provided at the end of this information sheet.



If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from your local Patient Advice and Liaison Service:

If you are being seen by Sirona Health and Care (St Martin’s Hospital), you can call: 01225 831403

If you are being seen by the Royal United Hospitals, you can call: 01225 825656.

Alternatively, you can contact Jane Millar, the Research Governance Sponsor of this study, on 01225 383162. Please quote the reference number: 169161.

### **What to do next if I’m interested? “Fill in the forms!”**

If you would like to take part, please complete the enclosed consent form and questionnaire pack and return them to us in the stamped addressed envelope provided.



Or, you can complete the questionnaires online at:

<https://bathreg.onlinesurveys.ac.uk/ms-survey>

Alternatively, please contact Laura Brown on the details below to discuss other ways to complete the questionnaires.

**We would ask that you please complete all questionnaires on the same day.**

Please note: Once you have returned the questionnaires you may be invited to participate in a second study, including an interview. Participation in the second study is completely optional.

**Thank you for your time**



Laura Brown  
Clinical Psychologist in Training  
Department of Clinical Psychology  
University of Bath  
Claverton Down  
Bath  
BA2 7AY

Dr. James Gregory  
Clinical Psychologist  
Department of Clinical Psychology  
University of Bath  
Claverton Down  
Bath  
BA2 7AY

Dr. Leon Dysch  
Clinical Neuropsychologist  
Community Neuro and Stroke  
Service

Tel: xxx  
Email: xxx

Tel: xxx  
Email: xxx

Tel: xxx  
Email: xxx

*All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by the Research Ethics Committee*



Appendix 13  
Participant Consent Form



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**PARTICIPANT CONSENT FORM**

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Title of Project: Mechanisms underpinning depression in MS

Name of researcher: Laura Brown

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**Please tick each box**

1. I confirm that I have read and understood the Questionnaire Information Sheet (Version 3, dated 28.09.2015) and I agree to take part in the above study. ☐
2. I understand that my participation is voluntary, I do not have to answer every question asked, and that I am free to withdraw at any time, without giving a reason for leaving. I understand that if I choose to withdraw, this will not affect my treatment in any way. ☐
3. I understand that my data will be treated confidentially and if published, will not be identifiable as mine. ☐
4. I understand that if my responses cause a member of the research team to become concerned about my safety or that of others, they will need to break confidentiality and contact my usual care team to pass on their concerns. ☐
5. I agree for Laura Brown and her supervisors to have access to the information produced from my responses for the purposes of this study and for audit purposes. ☐
6. I agree to take part in this research. ☐

If you are happy to take part, please write your name, signature, and date here:

---

Name of participant (Print)

---

Signature of participant

---

Date

Please provide your postal address so that we can send your £5 Amazon voucher (please print):

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Name of researcher (Print)

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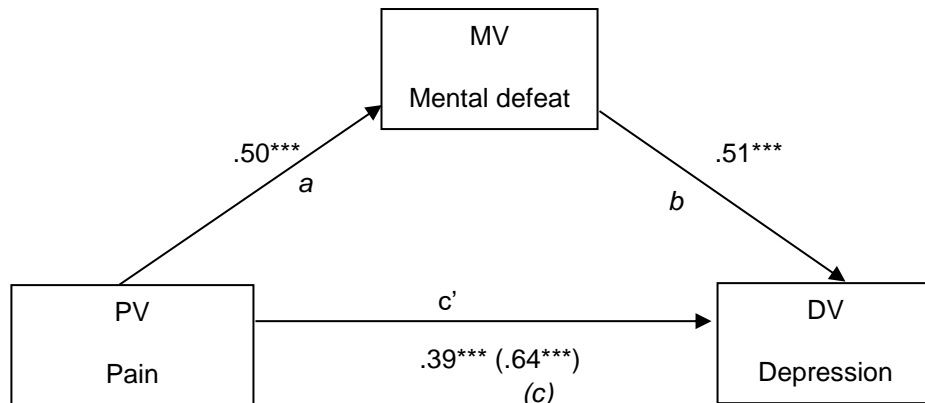
Signature of researcher

---

Date

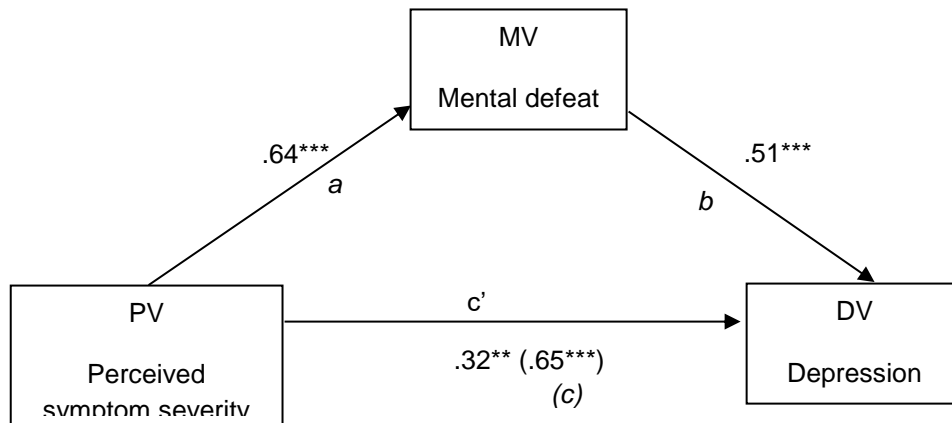
## Appendix 14

### Mediational models of the direct and indirect effects of psychosocial variables on depression



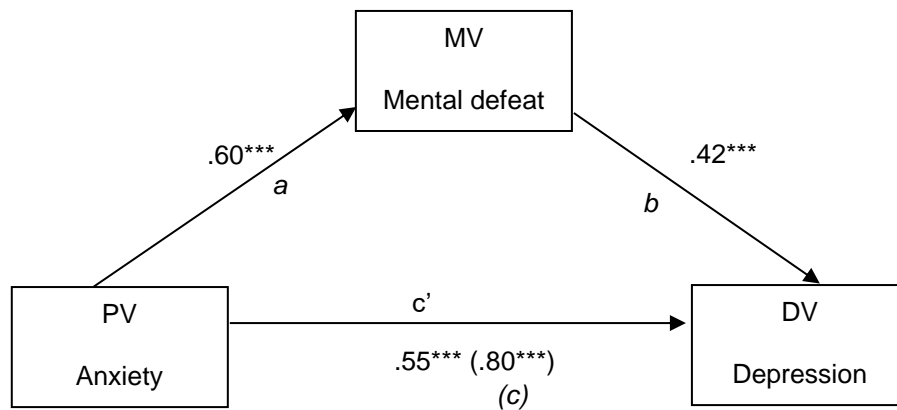
Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

Figure 2. Mediational model of the direct and indirect effects of pain interference on depression.



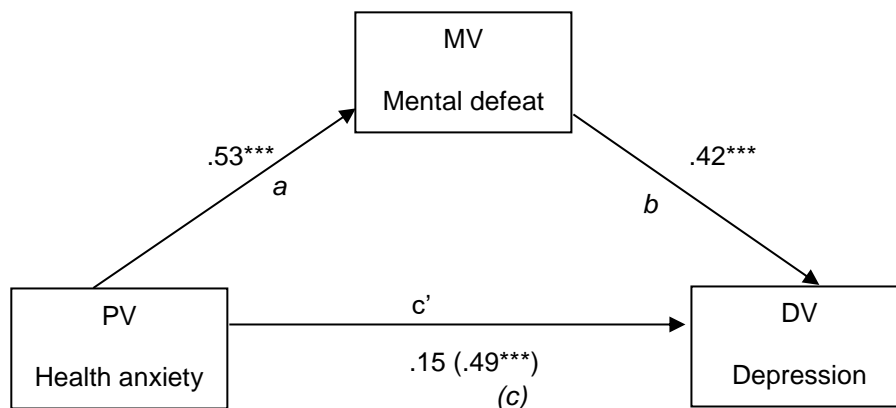
Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

Figure 3. Mediational model of the direct and indirect effects of perceived symptom severity on depression.



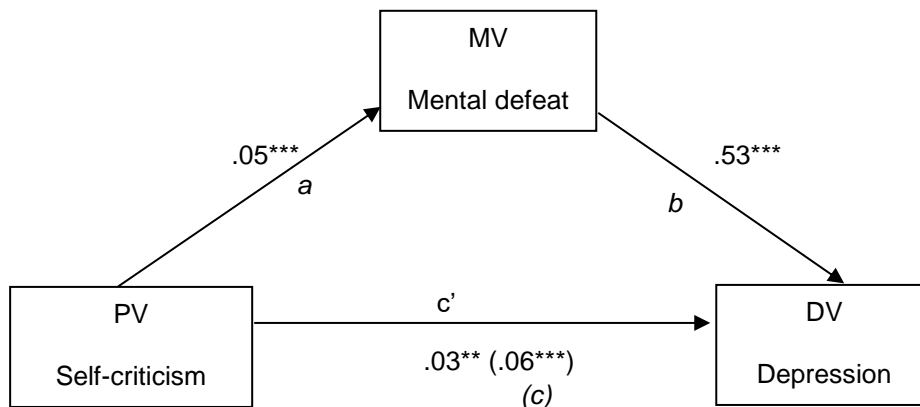
Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

Figure 4. Mediational model of the direct and indirect effects of anxiety on depression.



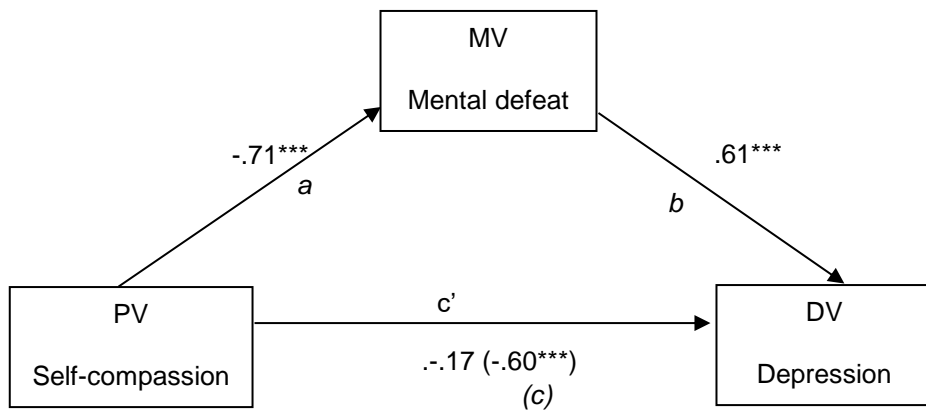
Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

Figure 5. Mediational model of the direct and indirect effects of health anxiety on depression.



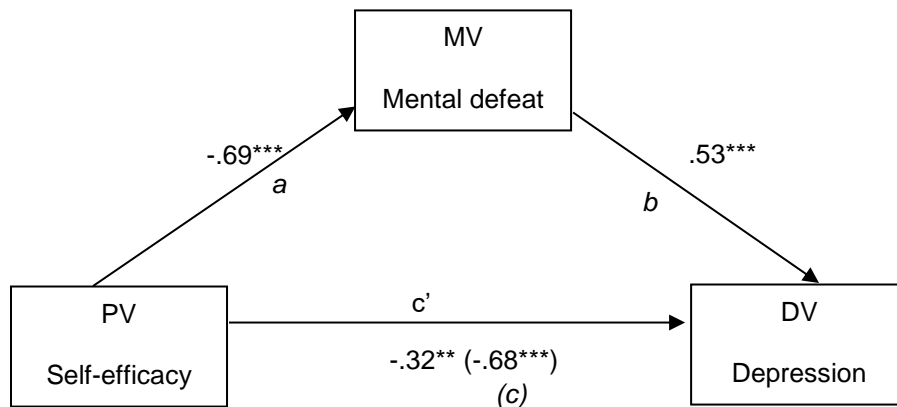
Note: \*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$

Figure 6. Mediational model of the direct and indirect effects of self-criticism on depression.



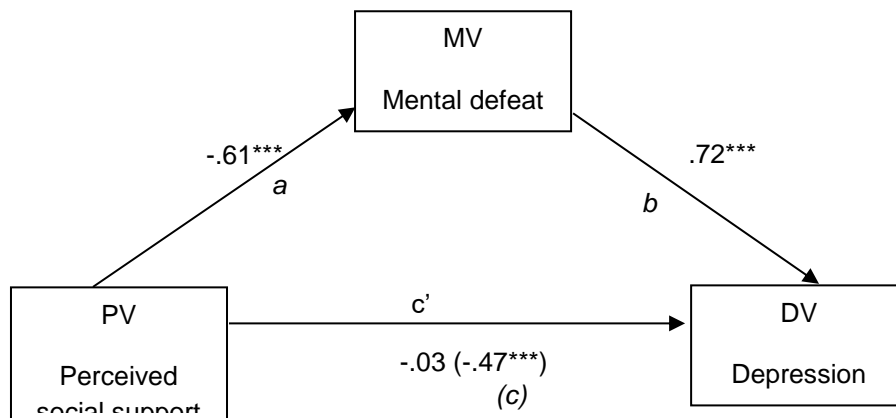
Note:  $^{***} = p < .001$ ;  $^{**} = p < .01$ ;  $^{*} = p < .05$

Figure 7. Mediation model of the direct and indirect effects of self-compassion on depression.



Note:  $^{***} = p < .001$ ;  $^{**} = p < .01$ ;  $^{*} = p < .05$

Figure 8. Mediation model of the direct and indirect effects of self-efficacy on depression.



Note:  $^{***} = p < .001$ ;  $^{**} = p < .01$ ;  $^{*} = p < .05$

Figure 9. Mediation model of the direct and indirect effects perceived social support on depression.

Appendix 15  
Critical Review of the Literature: Instructions for Authors  
Infant Mental Health Journal

**Information for Contributors**

Reflecting the interdisciplinary nature of the field, its international focus, and its commitment to clinical science, the IMHJ publishes research articles, literature reviews, program descriptions/evaluations, clinical studies, and book reviews on infant social–emotional development, caregiver–infant interactions, and contextual and cultural influences on infant and family development. The Journal is organized into three sections: Research, Clinical Perspectives, and Book Reviews. Research focuses on empirical research. Clinical Perspectives allows for more diversity in types of submissions and is designed to advance infant mental health practice and scholarship. Requests for book reviews should be sent by the author or publisher to the Editor In Chief. Please do not send a copy of the book until the request is approved.

The Journal welcomes a broad perspective and scope of inquiry in infant mental health and has an interdisciplinary and international group of associate editors, consulting editors, and reviewers who participate in the peer review process. In addition to regular submissions to the Journal, proposals for special issues or sections are also welcome. These should be discussed with the Editor In Chief prior to submission.

MANUSCRIPTS for submission to the *Infant Mental Health Journal* should be forwarded to the Editor as follows:

1. Go to your Internet browser (e.g., Netscape, Internet Explorer).
2. Go to the URL <http://mc.manuscriptcentral.com/imhj>
3. [Register](#) (if you have not done so already).
4. Go to the Author Center and follow the instructions to submit your paper.
5. Please upload the following as separate documents: the title page (with identifying information) and all remaining files without any identifying information, including the body of your manuscript, and each table and

figure. Please note that the cover letter is uploaded directly into a field in the on-line submission platform.

6. The Title Page should include a discussion of any conflicts of interest, human subjects approvals, and funding. Acknowledgements may also appear here. The *Infant Mental Health Journal* complies with all relevant recommendations from the International Committee of Medical Journal Editors in these areas.
7. Your abstract should be uploaded into the appropriate field at the submission website and should also be included in the main text of the manuscript. The abstract in the manuscript must include 3-5 key words listed at the end of the text.
8. Please note that this journal's workflow is double-blinded. Authors must prepare and submit files for the body of the manuscript and any accompanying files that are anonymous for review (containing no name or institutional information that may reveal author identity).
9. All related files will be concatenated automatically into a single .PDF file by the system during upload. This is the file that will be used for review. Please scan your files for viruses before you send them, and keep a copy of what you send in a safe place in case any of the files need to be replaced.
10. Style must conform to that described by the American Psychological Association *Publication Manual*, Sixth Edition, 2009 (American Psychological Association, 750 First Street, N.E., Washington, D.C. 20002-4242). Authors are responsible for final preparation of manuscripts to conform to the APA style.

Manuscripts generally do not exceed 10,000 words and will be assigned for peer review by the Editor or Associate Editor(s) and reviewed by members of the Editorial Board and invited reviewers with special knowledge of the topic addressed in the manuscript. The Editor retains the right to reject articles that do not meet conventional clinical or scientific ethical standards. Normally, the review process is completed in 3 months. Nearly all manuscripts accepted for publication require some degree of revision. There is no charge for publication of papers in the *Infant Mental Health Journal*. The publisher may

levy additional charges for changes in proofs other than correction of printer's errors. Authors have the option to participate in Wiley's OnlineOpen program which allows authors of primary research articles to make their article available to non-subscribers on publication and archive the final version of their article. With OnlineOpen, the author, the author's funding agency, or the author's institution pays a fee to ensure that the article is made available to non-subscribers upon publication via Wiley Online Library, as well as deposited in the funding agency's preferred archive. For more information, please visit the [OnlineOpen page](#).

Proofs will be sent to the corresponding author and must be read carefully because final responsibility for accuracy rests with the author(s). Author(s) must return corrected proofs to the publisher in a timely manner. If the publisher does not receive corrected proofs from the author(s), publication will still proceed as scheduled.

Additional questions with regard to style and submission of manuscripts should be directed to the Editor: Paul Spicer, PhD, at [paul.spicer@ou.edu](mailto:paul.spicer@ou.edu)



Appendix 16  
Service Improvement Project: Instructions for Authors  
Mental Health Review Journal

### Manuscript requirements

Please prepare your manuscript before submission, using the following guidelines:

<b>Format</b>	Article files should be provided in Microsoft Word format. LaTeX files can be used if an accompanying PDF document is provided. PDF as a sole file type is not accepted, a PDF must be accompanied by the source file. Acceptable figure file types are listed further below.
<b>Article Length</b>	Articles should be between 4000 and 7000 words in length, except for literature reviews or review articles which have no word limit. This includes all text including references and appendices. Please allow 350 words for each figure or table.
<b>Article Title</b>	A title of not more than eight words should be provided.
<b>Author details</b>	<p>All contributing authors' names should be added to the ScholarOne submission, and their names arranged in the correct order for publication.</p> <ul style="list-style-type: none"><li>• Correct email addresses should be supplied for each author in their separate author accounts</li><li>• The full name of each author must be present in their author account in the exact format they should appear for publication,</li></ul>

including or excluding any middle names or initials as required

- The affiliation of each contributing author should be correct in their individual author account. The affiliation listed should be where they were based at the time that the research for the paper was conducted

### **Biographies and acknowledgements**

Authors who wish to include these items should save them together in an MS Word file to be uploaded with the submission. If they are to be included, a brief professional biography of not more than 100 words should be supplied for each named author.

### **Research funding**

Authors must declare all sources of external research funding in their article and a statement to this effect should appear in the Acknowledgements section. Authors should describe the role of the funder or financial sponsor in the entire research process, from study design to submission.

### **Structured Abstract**

Authors must supply a structured abstract in their submission, set out under 4-7 sub-headings (see our "[How to... write an abstract](#)" guide for practical help and guidance):

- Purpose (mandatory)
- Design/methodology/approach (mandatory)
- Findings (mandatory)
- Research limitations/implications (if applicable)
- Practical implications (if applicable)
- Social implications (if applicable)
- Originality/value (mandatory)

	<p>Maximum is 250 words in total (including keywords and article classification, see below).</p> <p>Authors should avoid the use of personal pronouns within the structured abstract and body of the paper (e.g. "this paper investigates..." is correct, "I investigate..." is incorrect).</p>
<b>Keywords</b>	<p>Authors should provide appropriate and short keywords in the ScholarOne submission that encapsulate the principal topics of the paper (see the How to... ensure your article is highly downloaded guide for practical help and guidance on choosing search-engine friendly keywords). The maximum number of keywords is 12.</p> <p>Whilst Emerald will endeavour to use submitted keywords in the published version, all keywords are subject to approval by Emerald's in house editorial team and may be replaced by a matching term to ensure consistency.</p>
<b>Article Classification</b>	<p>Authors must categorize their paper as part of the ScholarOne submission process. The category which most closely describes their paper should be selected from the list below.</p> <p><b>Research paper.</b> This category covers papers which report on any type of research undertaken by the author(s). The research may involve the construction or testing of a model or framework, action research, testing of data, market research or</p>

surveys, empirical, scientific or clinical research.

**Viewpoint.** Any paper, where content is dependent on the author's opinion and interpretation, should be included in this category; this also includes journalistic pieces.

**Technical paper.** Describes and evaluates technical products, processes or services.

**Conceptual paper.** These papers will not be based on research but will develop hypotheses. The papers are likely to be discursive and will cover philosophical discussions and comparative studies of others' work and thinking.

**Case study.** Case studies describe actual interventions or experiences within organizations. They may well be subjective and will not generally report on research. A description of a legal case or a hypothetical case study used as a teaching exercise would also fit into this category.

**Literature review.** It is expected that all types of paper cite any relevant literature so this category should only be used if the main purpose of the paper is to annotate and/or critique the literature in a particular subject area. It may be a selective bibliography providing advice on information sources or it may be comprehensive in that the paper's aim is to cover the main contributors to the development of a topic and explore their different views.

	<p><b>General review.</b> This category covers those papers which provide an overview or historical examination of some concept, technique or phenomenon. The papers are likely to be more descriptive or instructional ("how to" papers) than discursive.</p>
<b>Headings</b>	<p>Headings must be concise, with a clear indication of the distinction between the hierarchy of headings.</p> <p>The preferred format is for first level headings to be presented in bold format and subsequent sub-headings to be presented in medium italics.</p>
<b>Notes/Endnotes</b>	<p>Notes or Endnotes should be used only if absolutely necessary and must be identified in the text by consecutive numbers, enclosed in square brackets and listed at the end of the article.</p>
<b>Figures</b>	<p>All Figures (charts, diagrams, line drawings, web pages/screenshots, and photographic images) should be submitted in electronic form.</p> <p>All Figures should be of high quality, legible and numbered consecutively with arabic numerals. Graphics may be supplied in colour to facilitate their appearance on the online database.</p> <ul style="list-style-type: none"> <li>Figures created in MS Word, MS PowerPoint, MS Excel, Illustrator should be supplied in their native formats. Electronic figures created in other applications should be copied from the origination software and</li> </ul>

pasted into a blank MS Word document or saved and imported into an MS Word document or alternatively create a .pdf file from the origination software.

- Figures which cannot be supplied as above are acceptable in the standard image formats which are: .pdf, .ai, and .eps. If you are unable to supply graphics in these formats then please ensure they are .tif, .jpeg, or .bmp at a resolution of at least 300dpi and at least 10cm wide.
- To prepare web pages/screenshots simultaneously press the "Alt" and "Print screen" keys on the keyboard, open a blank Microsoft Word document and simultaneously press "Ctrl" and "V" to paste the image. (Capture all the contents/windows on the computer screen to paste into MS Word, by simultaneously pressing "Ctrl" and "Print screen".)
- Photographic images should be submitted electronically and of high quality. They should be saved as .tif or .jpeg files at a resolution of at least 300dpi and at least 10cm wide. Digital camera settings should be set at the highest resolution/quality possible.

## **Tables**

Tables should be typed and included in a separate file to the main body of the article. The position of each table should be clearly labelled in the body text of article with corresponding labels being clearly shown in the separate file.

	Ensure that any superscripts or asterisks are shown next to the relevant items and have corresponding explanations displayed as footnotes to the table, figure or plate.
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## References

References to other publications must be in **Harvard** style and carefully checked for completeness, accuracy and consistency. This is very important in an electronic environment because it enables your readers to exploit the Reference Linking facility on the database and link back to the works you have cited through CrossRef.

You should cite publications in the text: (Adams, 2006) using the first named author's name or (Adams and Brown, 2006) citing both names of two, or (Adams *et al.*, 2006), when there are three or more authors. At the end of the paper a reference list in alphabetical order should be supplied:

<i>For books</i>	<p>Surname, Initials (year), <i>Title of Book</i>, Publisher, Place of publication.</p> <p>e.g. Harrow, R. (2005), <i>No Place to Hide</i>, Simon &amp; Schuster, New York, NY.</p>
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### *For book chapters*

Surname, Initials (year), "Chapter title", Editor's Surname, Initials, *Title of Book*, Publisher, Place of publication, pages.

e.g. Calabrese, F.A. (2005), "The early pathways:

theory to practice – a continuum", in Stankosky, M. (Ed.), *Creating the Discipline of Knowledge Management*, Elsevier, New York, NY, pp. 15-20.

<i>For journals</i>	<p>Surname, Initials (year), "Title of article", <i>Journal Name</i>, volume, number, pages.</p> <p>e.g. Capizzi, M.T. and Ferguson, R. (2005), "Loyalty trends for the twenty-first century", <i>Journal of Consumer Marketing</i>, Vol. 22 No. 2, pp. 72-80.</p>
<i>For published conference proceedings</i>	<p>Surname, Initials (year of publication), "Title of paper", in Surname, Initials (Ed.), <i>Title of published proceeding which may include place and date(s) held</i>, Publisher, Place of publication, Page numbers.</p> <p>e.g. Jakkilinki, R., Georgievski, M. and Sharda, N. (2007), "Connecting destinations with an ontology-based e-tourism planner", in <i>Information and communication technologies in tourism 2007 proceedings of the international conference in Ljubljana, Slovenia, 2007</i>, Springer-Verlag, Vienna, pp. 12-32.</p>
<i>For unpublished conference proceedings</i>	<p>Surname, Initials (year), "Title of paper", paper presented at Name of Conference, date of conference, place of conference, available at: URL if freely available on the internet (accessed date).</p> <p>e.g. Aumueller, D. (2005), "Semantic authoring and retrieval within a wiki", paper presented at the European Semantic Web Conference (ESWC), 29 May-1 June, Heraklion, Crete, available at:</p>



	<a href="http://dbs.uni-leipzig.de/file/aumueller05wiksar.pdf">http://dbs.uni-leipzig.de/file/aumueller05wiksar.pdf</a> (accessed 20 February 2007).
<i>For working papers</i>	<p>Surname, Initials (year), "Title of article", working paper [number if available], Institution or organization, Place of organization, date.</p> <p>e.g. Moizer, P. (2003), "How published academic research can inform policy decisions: the case of mandatory rotation of audit appointments", working paper, Leeds University Business School, University of Leeds, Leeds, 28 March.</p>
<i>For encyclopedia entries</i> <i>(with no author or editor)</i>	<p><i>Title of Encyclopedia</i> (year) "Title of entry", volume, edition, Title of Encyclopedia, Publisher, Place of publication, pages.</p> <p>e.g. <i>Encyclopaedia Britannica</i> (1926) "Psychology of culture contact", Vol. 1, 13th ed., Encyclopaedia Britannica, London and New York, NY, pp. 765-71.</p> <p>(For authored entries please refer to book chapter guidelines above)</p>
<i>For newspaper articles (authored)</i>	<p>Surname, Initials (year), "Article title", <i>Newspaper</i>, date, pages.</p> <p>e.g. Smith, A. (2008), "Money for old rope", <i>Daily News</i>, 21 January, pp. 1, 3-4.</p>
<i>For newspaper articles (non-authored)</i>	<p><i>Newspaper</i> (year), "Article title", date, pages.</p> <p>e.g. <i>Daily News</i> (2008), "Small change", 2 February, p. 7.</p>

*For archival or other unpublished sources* Surname, Initials, (year), "Title of document", Unpublished Manuscript, collection name, inventory record, name of archive, location of archive.

e.g. Litman, S. (1902), "Mechanism & Technique of Commerce", Unpublished Manuscript, Simon Litman Papers, Record series 9/5/29 Box 3, University of Illinois Archives, Urbana-Champaign, IL.

*For electronic sources*

If available online, the full URL should be supplied at the end of the reference, as well as a date that the resource was accessed.

e.g. Castle, B. (2005), "Introduction to web services for remote portlets", available at: <http://www-128.ibm.com/developerworks/library/ws-wsrp/> (accessed 12 November 2007).

Standalone URLs, i.e. without an author or date, should be included either within parentheses within the main text, or preferably set as a note (roman numeral within square brackets within text followed by the full URL address at the end of the paper).

See more at:

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Appendix 17  
Main Research Project: Instructions for Authors  
Journal of Psychosomatic Research

**Types of article**

***Full Length Papers***

Full length research papers will not normally be more than 4000 words in length (Introduction through Discussion) and will preferably be shorter.

Submission of a paper to the Journal of Psychosomatic Research will be held to imply that it represents original research not previously published (except in the form of an abstract or preliminary report), that it is not being considered for publication elsewhere, and that if accepted by the Journal of Psychosomatic Research it will not be published elsewhere in the same form in any language without the consent of the Publisher. Major papers of topical content will be given priority in publication. **Please note that this journal does not publish animal studies.**

**Language (usage and editing services)**

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop (<http://webshop.elsevier.com/languageediting/>) or visit our customer support site (<http://support.elsevier.com>) for more information.



**Preparation**

Manuscripts should conform to the uniform requirements known as the 'Vancouver style' (International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. N Engl J Med 1997; 336:309-315). The Editors and Referees attach considerable importance to a succinct and lucid prose style and well

organized tables. Authors whose native language is not English are advised to seek help before submission. Statistical procedures should be clearly explained. Manuscripts should conform to the uniform requirements known as the 'Vancouver style' (International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. N Engl J Med 1997; 336:309-315). The Editors and Referees attach considerable importance to a succinct and lucid prose style and well organized tables. Authors whose native language is not English are advised to seek help before submission. Statistical procedures should be clearly explained.

### **Formatting requirements**

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes. Divide the article into clearly defined sections.

### ***Figures and tables embedded in text***

Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file.

### ***Cover letter***

Each manuscript should be accompanied by a Cover Letter. In addition to a brief description of the article being submitted and its relevance to likely readers of the journal, the Cover Letter should include a statement that (1) authors of this article had access to all study data, are responsible for all contents of the article, and had authority over manuscript preparation and the decision to submit the manuscript for publication, (2) that all listed authors have approved of the submission of the manuscript to the journal, and (3) an

explanation of the relationship of the submitted paper to any other published, submitted or proposed papers reporting the same or overlapping data. You may submit the completed letter online.

### ***Title Page***

This should contain (a) the title of the article; (b) a short running head; (c) name of department where the work was conducted; (d) names of the each author with highest academic degree; (e) name, address, phone and fax of author responsible for correspondence and to whom requests for reprints should be addressed.

### ***Structured Abstract***

This should be subdivided under the headings **Objective, Methods, Results, and Conclusion** and should not exceed 250 words.

### ***Keywords***

Up to six keywords should be listed in alphabetical order after the abstract. These terms should optimally characterize the paper to facilitate choice of peer reviewers.

### ***Article Structure***

The text should be divided into sections with main headings: Introduction, Method, Results and Discussion and, in total, these sections should not normally be greater than 4000 words in length.

### ***Acknowledgments***

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. Acknowledgements must include mention of any source of funding outside the basic funding of the host institution (see *Role of the funding source* above). List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

### ***Tables***

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article. Each should be on a separate sheet, numbered consecutively in Roman numerals.

### ***Figures***

Each should be on a separate sheet, and numbered consecutively. Captions should be on a separate sheet. The number of illustrations should be kept to a minimum. Colour illustrations are not normally acceptable. Authors may be asked to support the costs of colour reproduction.

### ***Appendices***

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

### ***Highlights***

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See <https://www.elsevier.com/highlights> for examples.

### ***Abbreviations***

Keep abbreviations to a minimum and avoid their use in the abstract. Spell out each abbreviation in the text the first time that it is used. Ensure consistency of abbreviations throughout the article.

## **Footnotes**

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

## **References**

These should be numbered consecutively in the text in the order in which they are first mentioned and be so denoted in the list. Their form should be that adopted by the US National Library of Medicine, as used in the Index Medicus and as recommended in Huth EJ, Medical Style and Format.

## **Reference links**

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is encouraged.

## **Reference formatting**

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

### **Reference style**

*Text:* Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'

*List:* Number the references (numbers in square brackets) in the list in the order in which they appear in the text.

### *Examples:*

Reference to a journal publication:

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, J. Sci. Commun. 163 (2010) 51–59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, The Elements of Style, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[4] Cancer Research UK, Cancer statistics reports for the UK.  
<http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13.03.03).

### **Submission checklist**

The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

### **Ensure that the following items are present:**

One author has been designated as the corresponding author with contact details:

- E-mail address



- Full postal address

All necessary files have been uploaded, and contain:

- Keywords
- All figure captions
- All tables (including title, description, footnotes)

Further considerations

- Manuscript has been 'spell-checked' and 'grammar-checked'
- All references mentioned in the Reference list are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)

Printed version of figures (if applicable) in color or black-and-white

- Indicate clearly whether or not color or black-and-white in print is required.

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